

Old Kingdom, New Perspectives

**Nigel Strudwick
Helen Strudwick**

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Egyptian Art and Archaeology

2750–2150 BC

edited by

Nigel Strudwick and Helen Strudwick

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Foreword

There can be no academic subject for which the general public has such an inexhaustible appetite as Egyptology, and no period more so than the age of the pyramids. But the popular writings in this area are notoriously variable. While there is no shortage of reliable and accessible surveys by leading scholars in the field, neither does one have to look far on book lists to find an abundance of ‘pyramidology’ and other nonsense which also finds a wide audience. It was therefore a very welcome opportunity that arose when Helen Strudwick proposed that the 2009 Old Kingdom Art and Archaeology conference be held at the Fitzwilliam Museum in Cambridge so as to coincide with our annual Glanville Lecture on Egyptology, thus bringing the fruits of recent excavation and research by leading scholars to a wide general audience. The resulting event, held on 20–23 May 2009, consisted of a three-day meeting of specialist researchers, followed by a day of talks by some of the foremost experts in the Old Kingdom, to which the public was also invited, all culminating that evening in the Glanville Lecture delivered by Dr Jaromir Malek on ‘A city on the move: Egypt's capital in the Old Kingdom’. This volume publishes all but three of the twenty-seven papers presented at the conference, plus one additional offering.

The Fitzwilliam Museum is fortunate to have one of the most important collections of Egyptian antiquities in the UK and thus provides a very appropriate setting for the OKAA conference. The earliest Egyptian object to arrive — a very fine Third Intermediate Period coffin set—was given in 1822, only six years after the bequest of Viscount Fitzwilliam created the museum, and a quarter century before the building erected to house its collections first opened its doors. Since then the Museum's Egyptian collection has grown to nearly 17,000 objects, of which some one thousand are on display. The Egyptian galleries were refurbished in 2006 and remain the most popular in the museum.

Stephen Glanville, after whom the lecture is named, was Professor of Egyptology at Cambridge (1946–1956), as well as being Chairman of the Fitzwilliam's Syndicate and Honorary Keeper of Antiquities. Glanville saw it as essential that the Museum's Egyptian collections were actively used in teaching—as is still the case today — and that they continue to grow through acquisition. His commitment to engaging the public in the fascinating discoveries of professional Egyptologists has been continued by the Museum by the holding of a lecture bearing his name since 1977. We were delighted that Jaromir Malek accepted the invitation to give the 2009 lecture; and that so many distinguished scholars of Old Kingdom Egypt were able to attend

the conference with which it was paired.

Special thanks are due to Helen Strudwick, at the time Senior Assistant Keeper, Antiquities, and Nigel Strudwick, the organisers of the conference, who have also edited the papers published here.

Timothy Potts
Director
The Fitzwilliam Museum
Cambridge

Introduction

This volume presents twenty-five of the twenty-seven papers presented at the 2009 Conference Old Kingdom Art and Archaeology, generously hosted by the Fitzwilliam Museum in Cambridge. The history of these Old Kingdom meetings was admirably summarised by Miroslav Bárta in his Foreword to the proceedings of the 2004 conference, held in Prague, and it would be superfluous to repeat it here. The contents of the present volume show the wide range of subjects which this research group now embraces, from the Pyramid Texts through site reports, from the analysis of statue orientation to attempts to study the spatial arrangement of Old Kingdom cemeteries. Some of the papers are substantially the same as those presented at the meeting, but the editors have encouraged authors, where they feel it is necessary, to expand upon their ideas and to take them beyond the limited range of material which can be presented in a twenty-minute talk. One further paper which could not be presented at the conference is also included.

We were delighted to welcome to Cambridge colleagues from all over the Egyptological world, and they fairly represent where the Old Kingdom is studied most. We are delighted to be able to include the paper from Abdou el-Kerety (better known to his friends and colleagues as Hatem); visa problems meant that he was regrettably unable to be present at the conference, despite our best efforts with the UK authorities, but his contribution was read and appreciated in his absence. The paper of Gabriele Pieke could not be presented at the conference but we are happy to be able to include it. The longest paper presented here is by Mark Lehner and his co-authors and is a report on progress of his excavations at Giza; this has turned into a substantial publication and analysis and it is a great pleasure to be able to include it in this volume.

The final day of the conference was open to the public, focusing more particularly on papers relating to the archaeology and monuments of the Memphite region. This, and indeed the conference as a whole, formed a precursor to the thirty-third Stephen Glanville Memorial Lecture. This annual event, hosted by the Fitzwilliam Museum, has been an important fixture in the Cambridge and UK Egyptological calendar since 1977. In 2009, the Lecture was given by Dr Jaromir Malek on the subject 'A city on the move: Egypt's capital in the Old Kingdom'.

The editors would like to thank many persons without whose help and assistance the 2009 Old Kingdom Art and Archaeology meeting could not have taken place. First and foremost, we are deeply indebted to Dr Timothy

Potts and all the staff of the Fitzwilliam Museum for enabling the events to take place so successfully, and for ensuring the efficient operation of everything from computer projectors through to the teas and coffees which sustained us. We also thank our colleagues whose enlightening papers and discussion made the meeting the success it was, and we acknowledge their efforts in enabling the completion of the manuscript just over two years since the meeting.

We are delighted to acknowledge the help and assistance offered by Oxbow Books in taking this publication into their archaeological series. To our editor, Clare Litt, and the head of production, val Lamb, go our profound thanks for their advice and support.

Nigel Strudwick

Helen Strudwick

Recent work in the tomb of Nebkauhor at Saqqara

Abdou el-Kerety

The tomb of Nebkauhor (Idu)¹ is located in Saqqara, in the area north of the causeway of Unas and south of the enclosure wall of the Step Pyramid of king Djoser, west of the tomb of Niankhba, the east of the rock-cut tomb of Hermeru. This tomb is dated to the end of the fifth dynasty and the beginning of the sixth dynasty.²



Fig. 1: The northern wall in the offering room

The history of the tomb's discovery and first publication

The tomb of Nebkauhor was excavated by Selim Hassan in mid-October 1937, during the 1937–1938 excavation season at Saqqara of the Egyptian Antiquities Service. A brief report about the main results of the excavation was published by Selim Hassan and re-edited by Zaki Iskander in 1975.³

Reasons for re-publishing the tomb of Nebkauhor

It is important to state why I chose the tomb of Nebkauhor for intensive study instead of one of the other tombs in Saqqara, such as Khentika, Ty, or

Neferherenptah. The following are some answers to this question.

- a. There is a severe lack of detailed information in the original publication of the tomb of Nebkauhor. In his description of the northern wall in the pillared hall, Hassan⁴ failed to describe several scenes and texts which I shall evaluate in my future study on the tomb of Nebkauhor.



Fig. 2: The façade



Fig. 3: The first pillar

- b. The tomb owner was the king's eldest son of his body, and a vizier; therefore he was a man of considerable importance.
- c. The tomb is also one of the last major tombs at Saqqara still to be researched and to be published thoroughly.
- d. There are many errors in the original publication of the tomb. Moreover, there are many errors in Hassan's translation of the hieroglyphic texts, especially the biography.⁵
- e. The tomb occupies a special place in the history of Old Kingdom politics, and its art and architecture dates to the transitional period between the end of the fifth dynasty and the beginning of the Sixth. Akhethotep⁶ (the original owner, and also the one for whom most of the tomb's decoration was carved) post-dates well-known tomb owners such as Ptahshepses at Abusir, and Ty, as well as Niankhkhnum and Khnumhotep, at Saqqara. He also predates well-known sixth dynasty tomb owners such as Kagemni,

Tomb owner

Nebkauhor (Idu)'s titles included those of king's eldest son of his body,⁷ hereditary prince,⁸ count,⁹ overseer of the Scribes of the kings documents,¹⁰ chief justice and vizier,¹¹ inspector of priests of the pyramid of Unas¹² and scribe of a phyle,¹³ amongst others. It is interesting to point out that the original tomb owner, Akhethotep (Hemi), apparently held the same titles as Nebkauhor (Idu), with the exception of the title of 'king's eldest son of his body'.

The architecture of the superstructure and substructure

The tomb is a very large one measuring 34.0×18.60 m. The existing height is 4.20 m. The tomb consists of: a court; a pillared hall; a *serdab*; an ante-chamber; a mortuary chapel; an offering room; a burial chamber; and storerooms.

The decoration

1. The façade

The original facade faces south, and still shows reliefs representing the first owner of the mastaba. Akhethotep is standing and facing east. Most of his figure is missing. Only the right hand, holding a handkerchief, and parts of his trunk and feet are still apparent. In front of the feet, only a few fragmentary signs remain of the horizontal row of hieroglyphs (Fig. 2).

2. The removal of the name of the original tomb owner and its substitution with the name Nebkauhor

The tomb shows several examples of Nebkauhor erasing the name and the titles of the original tomb owner Akhethotep and substituting it with his own name.

- a. The first pillar: we can observe clearly how Nebkauhor removed the name of Akhethotep, and substituted it with his name¹⁴ (Fig. 3).
- b. The northern wall in the offering room: we notice the name of Nebkauhor written

- with red ink as a preparation to carving it later (Fig. 1).
- c. The limestone sarcophagus in the burial chamber: even here the new tomb owner has not shown any scruples about erasing the name of the original owner of the mastaba, and substituting it with his own¹⁵ (Fig. 4).

3. The biographical text

This biography decorated the western wall of the pillared hall. This inscription consists of two parts: the right-hand one, reading from left to right, and the left-hand one. The latter is a deed of mortuary endowment, and reads from right to left.¹⁶ (Fig. 5)]

4. The scene of cooking of geese

This scene covers the northern wall of the pillared hall and shows a seated man. A male cook busily fans the embers in a brazier over which he bends. Upon the brazier is a large ceramic pot in which three geese¹⁷ are being cooked (Fig. 7).¹⁸ It is noteworthy that nowadays in the villages of Upper and Lower Egypt this method of cooking is still practised, not because no modern method for cooking is available, but because it is considered to be healthy. The majority of Egyptian women in Upper Egypt prefer to use ceramic pots instead of stone pots, as the former are considered healthier than the latter (Fig. 6).



Fig. 4: The limestone sarcophagus



Fig. 5: The autobiographical text



Fig. 6: Large ceramic pot on a brazier



Fig. 7: The scene of cooking of geese

5. The scene of offering bearers

This scene decorated the north wall of the pillared hall. It shows offering bearers carrying different kinds of items,¹⁹ such as a loaf of bread, vegetables, meat and pottery vessels. It is similar to what is occurs today in modern life in the villages of Upper and Lower Egypt. When a person dies, all his neighbours bring his family different kinds of food to help and console them. Yet the food on the tomb walls is brought for the deceased, not for his family. This consists of meat, birds, fish, vegetables, bread and different kinds of fruit.

The modern family goes and visits the cemetery during particular feasts and religious occasions to honour the memory of the deceased. The women of the family of the deceased carry baskets which are piled with food, fruit, bread loaves and cakes. This is distributed to people, who recite the Bible or the holy Qur'an for the soul of the deceased. This ritual is known nowadays as 'mercy' or *el-rahma* in modern Egyptian, Arabic (Fig. 8, Fig. 9, Fig. 10 Fig. 11, Fig. 12, Fig. 13).

6. The offering room

One of the most intriguing depictions in this chapel is that in which an offering bearer holds a lily in his left hand—at least according to the description of the scene by Selim Hassan.²⁰ One could, however, suggest

that the offering bearer in this scene carries a plant that rather looks like artichoke and not a lily (Fig. 14). In this respect it is worthwhile to mention a block in the British Museum, EA 69667, ‘Block depicting an official seated behind an offering table.



Fig. 8: The offering bearers



Fig. 9: Ancient Egyptian offering bearer

He wears a necklace with Hathor pendant and extends a stylized bouquet or plant'²¹ (Fig. 15). One can suggest that the tomb owner in this scene holds an artichoke because the stem of this plant is tall and its leaves scaly, contrary to the lily, which has a hollow stem and broad leaves. Perhaps the ancient Egyptians used the artichoke as food or for a medical or religious purpose.

These questions I shall try to explain in my publication of the tomb of Nebkauhor.



Fig. 10: Modern Egyptian offering bearer in the Saqqara Cemetery



Fig. 11: The relatives of the deceased visiting the Cemetery



Fig. 12: The man who recites the holy Qur'an



Fig. 13: The scene of 'mercy' or 'el-rahma'



Fig. 14: The offering bearer scene in the offering room



Fig. 15: Block British Museum EA 69667

¹ PM III², 627–629.

² S. Hassan, 'Excavations at Saqqara 1937–1938', *ASAE* 38 (1938), 512–519.

³ Hassan, *ASAE* 38 (1938), 512–519; S. Hassan (ed. Z. Iskander), *The mastaba of Neb-Kaw-Her* (Cairo 1975).

⁴ *Neb-Kaw-Her*, 8–44.

⁵ H. Goedicke, *Die privaten Rechtsinschriften aus dem alten Reich*,

(Vienna, 1970), 81–103.

⁶ H. Ranke, *Die altägyptischen Personennamen I* (Glückstadt 1935–1977), 3.

⁷ N. Strudwick, 'Notes on the mastaba of *ḥt-ḥtp; ḥmi* and *Nb-kw-ḥr; idw* at Saqqara', *GM* 56 (1982), 89–94; B. Schmitz, *Untersuchungen zum title *ss-njswt* 'Königssohn'* (Habelts Dissertationsdrucke, Reihe Ägyptologie 2; Bonn 1976).

⁸ D. Jones, *An Index of Ancient Egyptian Titles, Epithets and phrases of the Old Kingdom* (2 vols, BAR International Series 866; Oxford 2000), I 315 (1157).

⁹ Jones, *Index I*, 496 (1858).

¹⁰ Jones, *Index I*, 209 (780).

¹¹ Jones, *Index II*, 1000 (3706).

¹² Jones, *Index II*, 932 (3438).

¹³ A. M. Roth, *Egyptian Phyles in the Old Kingdom. The Evolution of a System of Social Organization* (SAOC 48; Chicago 1991), 100–105.

¹⁴ Hassan, *ASAE* 38 (1938), 512.

¹⁵ Hassan, *ASAE* 38 (1938), 519.

¹⁶ Hassan, *Neb-Kaw-Her*, 39–43; Goedicke, *Die privaten Rechtsinschriften*, 81–103; N. C. Strudwick, *Texts from the Pyramid Age* (Atlanta 2005), 187–188.

¹⁷ P. F. Houlihan, *The Birds of Ancient Egypt* (American University in Cairo, 1988), 57.

¹⁸ U. Verhoeven, *Grillen, Kochen, Backen im Alltag und im Ritual Ägyptens. Ein Lexikographischer Beitrag* (Rites Egyptiens 5; Bruxelles, 1984), 110–116.

¹⁹ cf A. Moussa and H. Altenmüller, *The tomb of Nefer and Ka-hay* (AV 5; Mainz am Rhein 1971), 31, pl. 25b.

²⁰ Hassan, *Neb-Kaw-Her*, 49.

²¹ G. T. Martin, *Corpus of reliefs of the New Kingdom from the Memphite Necropolis and Lower Egypt I* (London 1987), 19–20 (39).

A new Old Kingdom rock-cut tomb from Abusir and its Abusir-Saqqara context

Miroslav Bárta

The aim of this contribution is to summarise and discuss some recent evidence for previously unknown rock-cut tombs situated in the area of Abusir. It results from an autumn 2004 discovery of an extensive rock-cut tomb in Abusir South. The tomb type to which this belongs represents only a minor category, but one which is indispensable for our understanding of Old Kingdom funerary culture. This contribution does not attempt to supply a detailed study of rock-cut tombs at Abusir and Saqqara. Rather, my wish is to outline the basic characteristics of this largely neglected yet promising field for future study.¹

North Saqqara

When searching for possible precursors of the rock-cut tombs so far known in the area of Abusir and Saqqara, it becomes evident that the known sources are limited and biased. One of the oldest attestations for their existence is preserved in the archives of the Griffith Institute and consists of two handwritten pages by W M. F. Petrie from his visit to the North Saqqara plateau. There were perhaps as many as three tombs that he was able to observe.² Judging by the notes made by Petrie, it may only be estimated that the tombs are of post-Sneferu date since at least one of them contains the *hetep di nesut* formula, complemented by an offering list.³ Based on circumstantial evidence, it may be supposed that they represent more or less contemporary appendages to the known tombs, most likely of the late fifth-sixth dynasty date (Fig. 1).

The Cemetery of Unas

During the fifth dynasty an important group of tombs developed in a trench south of the causeway of Unas. The cemetery started in what originally used to be a quarry established by Djoser. During the fifth dynasty, several rock-cut tombs were built in its southern slope. These tombs are unevenly distributed into two eastern and western parts and are situated at two different levels.⁴ They represent, however, only the proverbial tip of the iceberg since large sections of the trench have never been excavated. Yet this cemetery contains by far the largest number of rock-cut tombs in the whole area.

The lower level tombs were built from the west to the east and, besides many uninscribed tombs, there belong the tombs of Niankhra, Akhtihotep, Irukaptah, Ankh and Bunefer. Then follows an as yet unexcavated middle part of the cemetery, which continues on the east with the tombs of Niankhkhnum and Khnumhotep, Irienkaptah, Sekhentiu and Neferseshemptah.

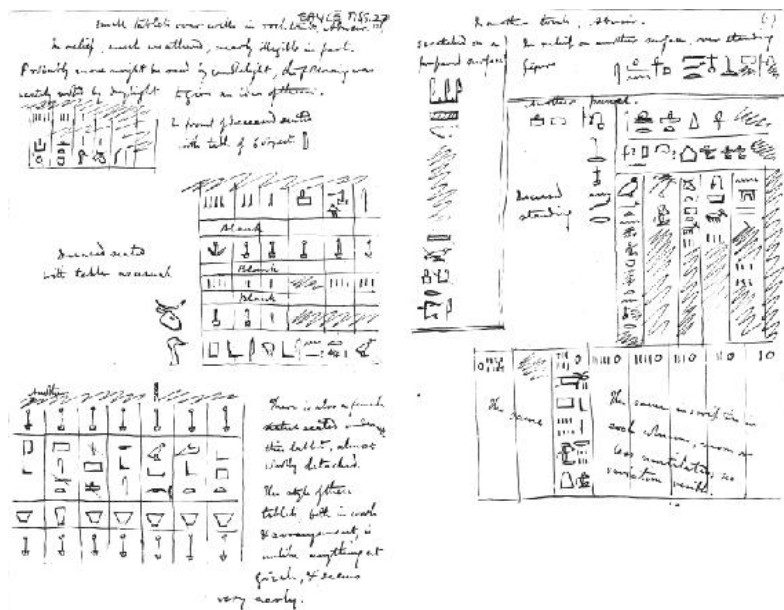


Fig. 1: Sayce manuscripts, pages 27 a and b, notes by Petrie on tombs discovered in North Saqqara. Courtesy of the Griffith Institute, Oxford

The upper terrace seems to have existed only in the eastern part of the quarry. The tombs situated here were also built from the west to the east and in addition to some uninscribed chapels, they include the tombs of Nefer and Kahay, Ankhirtah and Nikaankh.

The eastern as well as the western ends of the cemetery are demarcated by a north-south orientated slope within the quarry. On the west, there is the

tomb of Neferherenptah that was built shortly before the construction of the Unas causeway. During its building, the causeway was erected over two uninscribed tombs that existed at this location prior to the building project of Neferherenptah. On the east, there are several further undecorated and uninscribed rock-cut tombs, all of them concentrated on the lower terrace of the quarry.

There is even a possibility that there were three terraces. Nowadays, however, only two of them, the upper and the lower are discernible. The uninscribed tombs in this cemetery are located on the lower terrace. From the occurrence of shafts and false doors it seems probable that at least some of these were in use. In the south-eastern corner of the cemetery, to the east of the tomb of Sekhentiu and Neferseshemtah, there is a tomb with a preserved architrave bearing an offering formula but without the name of the tomb owner. To the north of it is another one, with a wall covered with rough plaster with red lines designed to facilitate the composition process of the decoration. Further north there is an additional tomb with a transverse room and two roughly-cut false doors in the western wall. In the close vicinity of this tomb are preserved the remains of a mud-brick chapel with an offering bench in the eastern part. According to Altenmüller, it is very possible that some more tombs existed near here.

The rock-cut tombs situated on the lower terrace, in the south-eastern part of the quarry, represent the latest layer of the tombs that were built here shortly before the reign of Unas. These were accessible from the same level. In front of their entrances is a stretch of levelled bedrock. In contrast, the tombs to the west of the tomb of Niankhkhnum and Khnumhotep are accessible from a depth of about 1.70 m. Given the fact that the terrace slopes steeply to the right in front of the tomb of Niankhkhnum and Khnumhotep, a considerable amount of work was necessary to develop the terrace prior to the construction of this tomb. (Fig. 2).



Fig. 2: Rock-cut tombs cemetery south of the pyramid of Unas (M. Bárta)

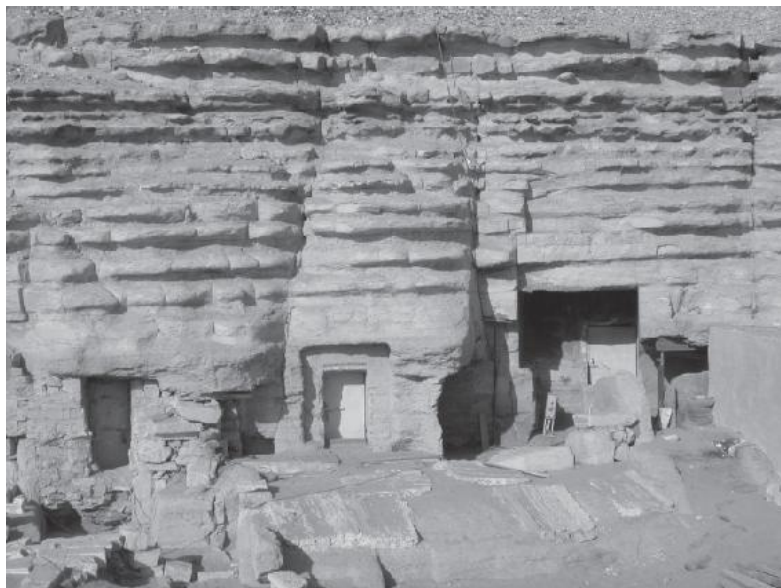


Fig. 3: Bubasteion cemetery with location of the former Old Kingdom rock-cut tombs (M. Bárta)

The cemetery of Merefnebef

Over the past few years the work of the Polish mission west of the Step Pyramid complex has shed new light on the sixth dynasty history of this part of the cemetery. Their most important work includes the discovery of the mastaba/rock-cut tomb of the vizier Merefnebef called Fefi, and dated by the excavator to the mid-sixth dynasty (Pepy I) though an earlier dating to the early sixth dynasty makes more sense to me.⁵ More recently, several new rock-cut tombs were discovered north of the tomb of Merefnebef, among them the rock-cut chapels of Nyankh-Nefertem-Temi,⁶ Chapel 13 belonging to Seshemnefer,⁷ Chapel 14 of Ikhi,⁸ and the anonymous Chapel 16⁹ and Chapel 17.¹⁰

Merefnebef built his final resting place as a rock-cut tomb topped by a mastaba on the surface. Moreover, on the eastern side of the mastaba he decided to add an external cult chapel with a decorated false door.¹¹ These features make his tomb relevant for our better understanding of the Abusir tomb AS 31 (see below).

Tabbet al-Guesh

There are a number of rock-cut tombs in the area of Tabbet al-Guesh in South Saqqara, a cemetery situated on a 15 ha plateau.¹² The tombs discovered there are of late Old Kingdom date (reign of Pepy I-Pepy II included; at least one of them dates to the First Intermediate Period) and most of their owners held the title of lector priest and had also other titles such as *khenti-she* priest, chief of a priestly phyle, noble of the king, and unique friend. On the surface, the tombs are characterised by large mud-brick enclosures reaching a height of some 3 m and covering areas of 4×9.5 , 6.5×9 and 6×9.5 m. These three enclosures delineate the funerary complexes of Khnumhotep (TG1), Pepyankh (TG2) and Khui (TG3), respectively.

Below ground, the respective cult chapels were cut in the rock, most of them of sixth dynasty date, some of them associated with specific tomb holders. Thus, tomb TG1 belonged to Khnumhotep, T5 to Haunefer and TG6 to Pepyankh. Each tomb complex consists of an enclosure and a flight of steps that leads to an open courtyard from where one can enter the funerary chapels where the burial shafts are located. In some cases, however, the shafts were also cut in the floor of their respective courtyards. In one case, the tomb of Pepyankh (from the entrance decoration), there is a direct reference to this specific type of funerary complex referred to as *pr-dt*.¹³

The ‘Bubasteion’ Cemetery

Of this cemetery only several walls of the original tombs were preserved and documented recently.¹⁴ The survey was done in connection with work on the New Kingdom tombs. Their later construction caused almost complete destruction of preexisting Old Kingdom structures. The analysis of these tombs is rendered more complex due to the very complicated underground system, with shafts of uncertain date. Within this framework, the present author had an opportunity to document these Old Kingdom tomb remains during the 2002 season. Several days of epigraphic work permitted all available and visible remains of the wall decoration to be copied and described. From what has remained in situ, it is difficult to establish any ground plan of the tombs. It is estimated that there existed at least three tombs, orientated in a north-south direction and facing south. Today, their remains may be found adjoining the west wall of the recent ‘house’ of the famous envoy of Ramesses II, Netjerwedjmes (Fig. 3).¹⁵

A new rock-cut tomb from Abusir

In 1995, during the course of a rescue excavation, the Czech mission discovered a previously unknown sixth dynasty cemetery in the area of South Abusir.¹⁶ The oldest, completely examined mastaba so far belongs to the vizier Qar. It abuts the western face of an earlier, possibly late fifth dynasty, anonymous rock-cut tomb originally labelled as ‘Mastaba KK’ (now AS 31).¹⁷

Table 1: Sizes of individual rock-cut chapels

Unas Cemetery	Length	Width	Height
Irukaph	13.35–13.55	2.15–2.25	2.35
Nefert/Kahay	8.45	1.86	2.25 ²
Iriekaprah	irregular 5.00–5.10	2.00–3.35	1.90 ³
Seshemtiut/Neferseshemtah	8.70	1.82/1.94	2.06 ⁴
Nefersherenptah	8.90	2.00	2.40 ⁵
Cemetery of Merefnebef			
Chapel 13, Seshemnefer	7	3	1.70 ⁶
Chapel 14, Ikhi	2.5	2.5 (western part), 4.5	3.8 (eastern part), heights missing
Merefnebef	6.26	2.44	2.25
Chapel 15, Nyankhaftertem	6.53 (NS)	2.65–2.80 (E-W)	1.83–1.89
Chapel 16	9.00	2.40	
Chapel 17	4.16	2.40	
Tabhet al-Guesh			
Haunefer, main chapel T5	1.90	3.30	1.90
Khnumhotep, chapel 1	5.40	1.80	1.80
Abusir South			
AS 31	19.60	2.25	3.50
AS 41	10.30	1.80–2.15	2.50–2.00
AS 42	4.93	3.23	2.45

¹ For this tomb see A. MacFarlane, *The Unis Cemetery at Saqqara. Volume 1. The Tomb of Irukaph* (ACER 15; Sydney 2000), 21.

² A. M. Moussa, H. Altenmüller, *Old Kingdom tombs at the cemetery of king Unas at Saqqara. The tomb of Nefer and Kahay* (AV 5; Mainz am Rhein 1971), 10.

⁴ A. M. Moussa, F. Jurga, *Old Kingdom tombs at the cemetery of king Unas at Saqqara. Two tombs of craftsmen* (AV 9; Mainz am Rhein 1975), 13.

⁵ Altenmüller, *MDAIK* 38 (1982), 4.

⁶ K. Myśliwiec, ‘West Saqqara in 2002’, *PAM* 14 (2003), 121.

In front of AS 31 is situated a large open courtyard measuring approximately 10.80 × 5.00 m, accessible by a ramp that runs from the north-eastern corner parallel to its east wall. The ramp is 5.90 m long, 1.40 m high on the north where it starts, and 2.35 m wide, and is built of mud-bricks. It descends to the south. Cut in the south wall of the court are two rock-cut tombs, AS 41 and AS 42, both of which have north-south orientated chapels. These tombs were found void of any decoration and the meagre finds were only some pottery fragments and some parts of the statuary (Fig. 4).

AS 41 (KK IV) (Fig. 5 and Fig. 6)

The tomb is entered from the floor of the court by way of a small ascending

ramp 0.70 m long, 1.20 m wide and reaching a height of 0.30 m above the ground. It gives way to the entrance of the tomb, 1.30 m long, 1.55 m wide and 2.44 m high. Both sides of the doorway were narrowed down by means of two mud-brick walls to a passage 0.84 m long and 0.60 m wide. The entrance opens into a 10.30 m long, 1.80–2.15 m wide and 2.50–2.00 m high (diminishing southward) corridor chapel. At the south end, embedded in the west wall is a recess 1.55 m wide and 0.40 m deep in which a false door originally stood. At the south end of the corridor is a stone wall behind which is found a serdab, 0.85 m deep.



Fig. 4: Cemetery in Abusir South with the tomb AS 31 at the background (M. Bárta)



Fig. 5: View of the court with entrances into tombs AS 41 and 42 on the

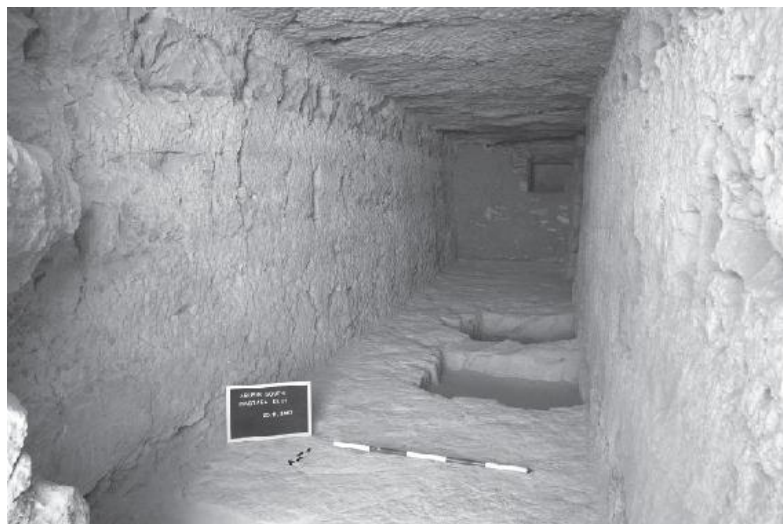


Fig. 6: View of the tomb AS 41 chapel, view from the north (M. Bárta)

In the floor of the chapel are three shaft openings.

Shaft 1 (proceeding from the north) 0.90×0.90 m, 2.40 m deep

Shaft 2 $1.10\text{--}1.15 \times 1.10\text{--}1.15$, 2.70 m deep; at the bottom, to the west of the shaft, is a shallow burial chamber 0.72 m deep, 1.80 m long and 0.63 m high, without finds.

Shaft 3 1.10×1.10 m, 3.40 m deep, at the bottom, to the west of the shaft a chamber, 0.80 m deep, 1.90 m long and 0.70 m high. On the floor were found the imprints of a wooden coffin which originally measured 1.76×0.50 m.

No finds.

AS 42 (KK III)

This tomb has a single chamber, entered through an entrance 0.66 m wide and 2.13 m high, 0.80 m above the floor of the court. It is a north-south orientated chamber, roughly hewn in the bedrock, measuring 4.93 m long, 3.23 m wide and 2.45 m high with an irregular shaft opening in the north-western corner measuring about 1.20×1.30 m (unexcavated as yet). In the west wall, about 1.0 m to the north of the south-west corner, some 1.40 m above the floor level, is an irregular niche 1.00 m wide, 1.10 m high and some 0.70 m deep.

AS 31 (Fig. 7, Fig. 8, Fig. 9, Fig. 10)

Tomb AS 31 was excavated to some extent during the autumn seasons of 2002 and 2004 and is by far the most impressive of the three rock-cut tombs in the court. The tomb measures 41.30×17.20 m and consists of two different parts. The first part, built over the native bedrock, has the typical form of a mastaba built of local limestone blocks with a northern and southern cult niche. The superstructure of the tomb is still preserved to a height of more than 4 m. The essential components indicate that the architect strictly followed the mastaba pattern of the tomb, disregarding the fact that the most important and functionally essential components were situated in the rock-cut part of the tomb. The shell masonry is built of medium-sized blocks containing the loose filling of the body of the mastaba. It is above all the south cult niche of the tomb that is important for the dual concept of the tomb. This was built as an open cult place dominated by a monolithic false door. It is this feature that emphasises the unique dual character of the tomb concept. The doublerecessed false door was 2.10 m wide, 1.00 m deep and max. 2.38 m high, embedded in a 0.50 m deep recess and made of white limestone but devoid of any decoration. In front of it was built an open cult place 2.10 m wide and 2.40 m long. It seems that this chapel was built in two phases, the first one being only 1.00 m long (together with the niche making up 1.50 m) and open to the east. Later on, the chapel was enlarged to the present dimensions. There were no artefacts whatsoever found here. The necessary northern niche was found totally destroyed, not far away from the entrance into the underground section of the tomb. Only the width of the niche has been preserved; it was 1.74 m wide; the depth may be estimated at 0.50 m, in accordance with the southern niche.

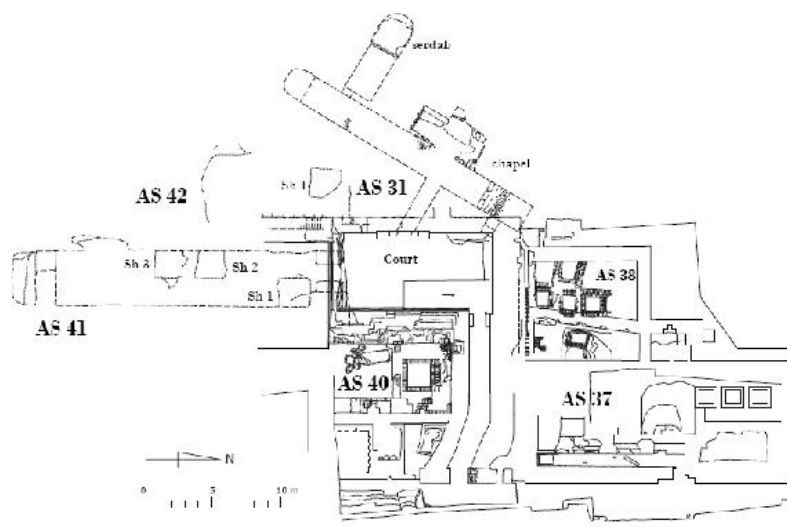


Fig. 7: General plan of the cemetery in front of AS 31 entrance (L. Wellner)

Chapel

The second, more intricate part has been cut in the bedrock below the northern niche of the tomb. This has the form of an inclined façade dressed with locally procured limestone blocks. This part is 11 m wide and 4 m high containing an entrance into a rock-cut chapel. In its centre is a monumental limestone block shaped in the form of a false-door providing access into the tomb. The chapel is entered by a 2.80 m high and 4.10–4.80 m long entryway (1.00 m wide) giving passage into a north-south orientated chapel. Its ground-plan measures 19.60×2.25 m and it is 3.50 m high. In the western wall was a decorated cult niche of which only fragments could be recovered. The original dimensions of the niche may be estimated at 4.20 m (width) and 1.44 m (depth). The western part of the chapel floor was taken up by a large limestone platform block which supported the original false door or a decorated niche. Fragments of this niche were found in the southern part of the corridor. From the imprint on the floor it may be supposed that the niche originally had three recesses. The side walls of the niche were cased with limestone blocks and the floor plastered with a mud layer. Between the corridor and the niche proper stood a partition mud-brick wall of which only the lowermost course was preserved on both sides, in each case 1.06 m long and 0.26 m wide, leaving a 2.08 m wide space in the centre.

By sheer size comparison, the chapel of tomb AS 31 with its 19.60×2.25 m ground plan is by far the largest known rock-cut tomb known in the necropolis ([Table 1](#)) and indicates the architect's predilection for large dimensions.



Fig. 8: South chapel of AS 31 (M. Bárta)

Burial apartments

As for the decoration, the only positive evidence for it was found in the southern part of the corridor and consisted of several fragments originating from the false door. The imprint of the false door was found on the floor of the chapel and from the fragments it appears that this was the only decorated element of the tomb. The walls of the corridor were finely polished and in places, when required by the poorer quality of the rock, cased with limestone blocks. A closer look at the quality of the work shows that the smoothing was carried out carefully and was followed by white plastering which is still preserved in many places.

The burial installations were discovered to the west of the cult niche (an 8 m deep shaft with a burial niche) and to the west of the corridor chapel (taking the shape of a niche with a robbed limestone sarcophagus). According to the preliminary anthropological results it seems that there were at least two persons buried within the tomb (both male and female).

The shaft started on the top of the mastaba and descended south-west of

the cult niche in the rock-cut part of the tomb. At its bottom, cut in the west wall, was a small chamber measuring $2.90 \times 2.00\text{--}2.20$ m, accessible by a 1.00 m long and 1.30 m wide entryway. It is interesting that this shaft begins at the level of the bedrock and there were no built side walls that might have protected the open shaft during the building stage of the mastaba's superstructure.

Another burial installation was discovered in the northern part of the corridor. This section of the tomb consists of several components, all of them carefully executed. It is above all a niche of unknown purpose with a slot to admit light in the eastern wall, close to the northern end of the corridor. The whole section of the corridor north of the tomb entrance has a lower ceiling, another indication of the great care invested into the final shaping of the inner space.

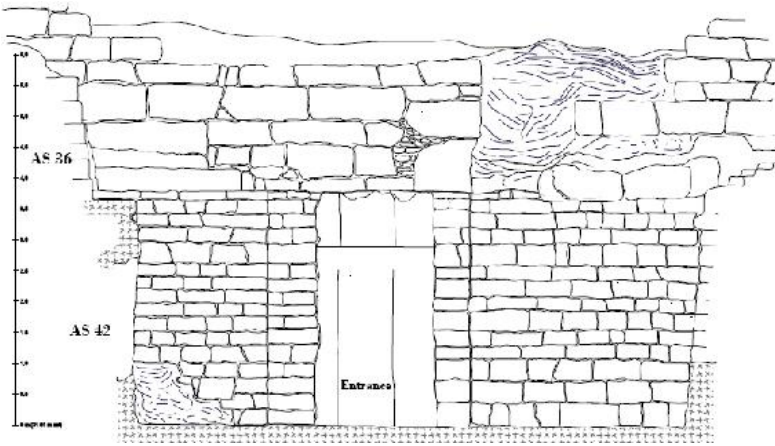


Fig. 9: View of the facade of mastaba AS 31 (L. Wellner)



Fig. 10: View of the chapel of AS 31, looking south (M. Bárta)



Fig. 11: Restored part of an inscription from the chapel with some titles of the anonymous owner of AS 31 (M. Frouz)

In the northern part of the corridor was a limestone wall cutting off the northernmost section, with a sealed entrance into a corridor leading to another unfinished burial apartment. The partitioning wall dividing the corridor in an east-west direction into two asymmetrical parts begins 3.25 m south of the north end of the corridor. Originally it reached the ceiling. The empty space between the partition and the north wall was originally filled with a dense layer of destroyed mud-brick. Opposite the niche in the east wall was an entrance giving way to a narrow corridor starting in the west wall and running for some 4 m to the west. It opens into an anteroom of about 5×3 m in ground plan. From there, opening in the west wall, an opening leads into a burial niche.

The burial niche with its sarcophagus gives the impression that its incorporation into the tomb's concept was only secondary. The niche itself is some 3.90 m deep and 2.10 m wide. The limestone sarcophagus is 2.30 m long and 1.08 m wide, with its lid moved to the side. The specific feature is the east-west orientation of the whole burial. The room was found robbed and only one canopic jar made of calcite could be found to the west of sarcophagus.¹⁸

Serdab

The serdab was cut in the west wall of the corridor, south of the cult place. It is a wide and long room orientated in an east-west direction, 7.50 m long and 2.14 m wide. The first 4.60 m of the side walls are fairly well cut whereas the back part of the room seems to have been left unfinished. Between the room and the corridor was built a massive wall of local limestone lumps, the wall being 0.90 m wide. At a height of 1.00 m above the floor level a narrow slot began. In front of the serdab wall, in the corridor, was traced a L-shaped bench used probably for the offerings for statues originally placed in the serdab (of which nothing has remained).

Preserved titles (Fig. 11 and Fig. 12)

Establishing at least a provisional dating for the tomb is essential since this is the oldest structure in this part of the cemetery, directly preceding the tomb complex of the vizier Qar. In this respect, several cult niche fragments with hieroglyphic inscriptions uncovered in the chapel of AS 31 provide some evidence. Among the titles two are of high importance. The first one is *hm-ntr hnmw hnt(j) pr-z3* ‘priest of Khnum who is foremost/first of the House of protection’, a title to my knowledge so far unattested from the Old Kingdom¹⁹ and *‘Nmtj* ‘assistant of Nemty’.²⁰ The latter title has been attested for Mereruka (reign of Teti),²¹ in the tomb of Udjahateti (reign of Teti–Pepy I),²² and in the tomb of Tjetju (Pepy I).²³ All three tombs are situated in the Teti Pyramid Cemetery. The final attestation of the title comes from the ‘Louvre’ mastaba of Akhtihotep south-east of the complex of Djoser, equally dated to the late fifth–early sixth dynasty.²⁴ Another interesting feature is found in the title (priest) of Anubis, who is in front of Sepa, west of his places...’ with its citation of the locality Sepa, the existing evidence for which has been collected by Zibelius. From her list it follows that with regard to Saqqara, most cases are dated to the sixth dynasty, a significant number of which originate from the cemetery of Pepy II in South Saqqara.²⁵



Fig. 12: Detail of the inscription (M. Frouz)

Conclusions

Taking into account all evidence at our disposal at the moment, one can suggest that tomb AS 31 dates to the late fifth or very early sixth dynasty (with reservations). Its location shows clearly that this tomb was built as the first in this part of the remote Abusir-Saqqara cemetery. The question of whether there existed any connection with the subsequently built tombs of Qar and his family must be left open for the lack of evidence at present time.

Within the scope of this contribution, only a tentative comparison of the Giza and Abusir-Saqqara building traditions can be attempted. First of all, despite all previous accounts, there is no firm evidence for rock-cut tombs in Abusir-Saqqara prior to the fifth dynasty.²⁶ Thus the oldest rock-cut tombs on the pyramid fields developed in Giza, probably as early as during the reign of Khafre.²⁷ Another major difference lies in the fact that unlike Giza (where the tombs belonged to the highest members of the royal family, including the queens and royal children), the rock-cut tombs built close to Memphis belonged, with only one known exception, to lower rank officials. Concerning the social status of the tomb owners, more than sixty different titles of seventeen tomb owners were noted. Generally speaking, they have almost nothing in common except for the title 'property custodian of the king' which is attested in as many as eleven cases and 'intimate of the king' (attested five times).²⁸ On a general level, it may be said that most of the tomb owners were employed at the royal court and as lower ranking priests.

Without any further details, all evidence at our disposal from Abusir and Saqqara indicates that the fashion in rock-cut tomb building appears here by the end of the fifth dynasty, perhaps in connection with a resurrected 'link' between Giza and Abusir and Saqqara re-established some time during the reign of Niuserre. This, as well as most of the features mentioned earlier, necessitates, however, further examination and testing. What seems to be clear, however, is the conclusion that the rock-cut tombs known from Abusir and Saqqara appear suddenly and probably only as a modified import from Giza during the second half of the fifth dynasty. I am aware of just one parallel to AS 31 which is represented by a rock-cut tomb of Kaunesut at Giza. His tomb also features a regular mastaba-superstructure with southern and northern niche and with a chapel cut in the rock. Despite the official dating of the tomb to the late-fourth/fifth dynasty, the titles of Kaunesut allow for a possible later date (second half of the fifth dynasty).²⁹

We may speculate as to the reasons that led to their introduction: there was certainly enough space to build standard mastaba-type tombs elsewhere. Perhaps at the beginning we have here another example of the emulation of the material culture of higher officials by the lower officials, as was the case with imported and imitated Levantine pottery in some Abusir and Saqqara tombs during the sixth dynasty?³⁰ At the same time, it may be assumed that they were cheaper and quicker to build and did not require additional building material. This may have been yet another important factor in Saqqara as titles of the rock-cut tomb owners in this area indicate their

somewhat lower status at the court.

Last but not least, at the present there is no explanation for a strong axis deviation of the entrance into the chapel of AS 31. The entrance is orientated to the south-east by about 30° which makes it rather unusual. There may be several factors to take into account: the orientation of the tomb towards the rising sun at a specific time of the year, the orientation towards another principal monument in this direction or some other, so far unknown, factors.

Many problems remain to be solved – the origin of rockcut tombs in the area of Abusir and Saqqara, their social, spatial and perhaps religious specific significance. Most questions only can be answered with a hoe and a basket.

¹ General literature on the rock-cut tombs of the Old Kingdom may be found in: Brunner, H., *Die Anlagen der ägyptischen Felsgräber bis zum Mittleren Reich* (Glückstadt, New York [etc] 1936); G. A. Reisner, *A History of the Giza Necropolis* (Cambridge 1942); P. Elsner, *Die Typologie der Felsgräber: strukturanalytische Untersuchung altägyptischer Grabarchitektur* (Frankfurt am Main 2004); P. Jánosi, *Giza in der 4. Dynastie: die Baugeschichte und Belegung einer Nekropole des Alten Reiches* (Wien 2005), 297–435. For a more detailed overview of individual Old Kingdom sites with rock-cut tombs see *ibid*, 297, n. 1855 and most recently also E. Edel, K.-J. Seyfried, G. Vieler, *Die Felsgräbernekropole der Qubbet el-Hawa bei Assuan. I. Abteilung* (Paderborn 2008).

² D. Jeffreys, A. Tavares, 'The Historic Landscape of Early Dynastic Memphis,' *MDAIK* 50 (1994), 147.

³ Petrie, in Sayce Mss., 27 a and b (Archives of the Griffith Institute, Oxford). I am indebted to J. Malek for letting me to use this unpublished material.

⁴ PM III², Plan LXII, 637–645. On the history and chronology of the quarry and its subsequent development see H. Altenmüller, 'Remarques sur la datation de la tombe d'Irou-ka-Ptah à Saqqara', *Actes du XXIXe Congrès International des Orientalistes. Egyptologie* (2 vols, Paris 1975), I, 1–5; *id.*, 'Arbeiten am Grab des Neferherenptah in Saqqara (1970–1975)', *MDAIK* 38 (1982), 1–16; A. M. Moussa, H. Altenmüller, *Das Grab des Nianchchnum und Chnumhotep* (AV 21; Mainz am Rhein 1977), 13–14.

⁵ M. Bárta, 'The title "Inspector of the Palace" during the Egyptian old Kingdom,' *ArOr* 67.1 (1999), 15–16.

⁶ K. Myśliwiec, 'West Saqqara archaeological activities, 2003', *PAM* 15 (2004), 116; K. O. Kuraszkiewicz, 'The owner of chapel 15 and his family', *PAM* 15 (2004), 123–125.

⁷ *id.*, 'West Saqqara in 2002', *PAM* 14 (2003), 121.

⁸ *ibid*, 123–124.

⁹ K. Myśliwiec, 'West Saqqara archaeological activities, 2003', *PAM* 15

(2004), 120.

¹⁰ *ibid*, 111–122.

¹¹ K. Myśliwiec et al., *The tomb of Merefnebef (Saqqara I; Warsaw 2004)*, 56–59.

¹² Vassil Dobrev, personal communication. For the recent excavations of IFAO led by V. Dobrev, see V. Dobrev, ‘Tabbet al-Guesch’, *BIFAO* 102 (2002), 524–526; *BIFAO* 103 (2003), 568–571; *BIFAO* 104 (2004), 661–665; *BIFAO* 105 (2005), 423–426; *BIFAO* 106 (2006), 351–354; *BIFAO* 107 (2007), 265–267 and *BIFAO* 2008, forthcoming.

¹³ V. Dobrev, ‘A new necropolis from the Old Kingdom at South Saqqara’, in M. Bárta, ed., *The Old Kingdom Art and Archaeology. Proceedings of the conference held in Prague, May 31–June 4, 2004* (Prague, 2006), 127–131; *ibid*, ‘Old Kingdom tombs at Tabet al-Guesch’, in M. Bárta, F. Coppens, J. Krejčí, eds, *Abusir and Saqqara in the Year 2005* (Prague 2006), 231–232, pls 4–6.

¹⁴ A survey undertaken by the present author who was invited by A. Zivie, director of excavations.

¹⁵ A. Zivie, P. Chapuis, *Les tombeaux retrouvés de Saqqara* (Monaco 2003).

¹⁶ M. Bárta et al., *Abusir XIII : Abusir south 2 : tomb complex of the vizier Qar, his sons Qar Junior and Senedjemib, and Iykai* (Prague 2009).

¹⁷ Since the beginning of the Czech excavations in Abusir, an alphabetical system for numbering individual archaeological entities was used. However, it was subsequently decided to change away from this system for its apparently non-diagnostic labelling and to renumber individual objects respecting a chronological order according to archaeological seasons and individual areas of the Abusir pyramid necropolis, using AS for Abusir South.

¹⁸ Excavation No. 10/LL/2004.

¹⁹ But see Hannig, *Lexica* 4, 454, *pr-sj*, ‘Haus des Schutzes’ and *hnt(j) m pr-sj*, ‘der erste im Haus des Schutzes’.

²⁰ D. Jones, *An Index of Ancient Egyptian Titles, Epithets and Phrases of the Old Kingdom*, (2 vols, BAR International Series 866; Oxford 2000), 347–348, No. 1295. For the reading proper of the title consult O. D. Berlev, ‘“Сокол плывущий в ладье”, иероглиф и бог’, *Вестник древней истории* 1 (1968), 3–30. I owe the improved reading of the title to Nigel Strudwick.

²¹ P. Piacentini, *Les scribes dans la société égyptienne de l’Ancien Empire. Vol. I. Les premières dynasties. Les nécropoles Memphites* (Études et Mémoires d’Égyptologie No. 5; Paris 2002), 581ff–G.Sa.28.

²² *ibid*, 569ff–G.Sa.17.

²³ *ibid*, 633ff–G.Sa.73.

²⁴ B. Begelsbacher-Fischer, *Untersuchungen zur Götterwelt des Alten*

Reiches im Spiegel der Privatgräber der IV. und V. Dynastie (OBO 37; Freiburg/Göttingen 1981), 221; PM III², 634; Ziegler, C., *Le mastaba d'Akhethetep* (Paris 2007), 24.

²⁵ K. Zibelius, *Ägyptische Siedlungen nach texten des Alten Reiches* (BTAVO, Reihe B, Nr. 19; Wiesbaden 1978), 209–211.

²⁶ Compare P. Jánosi, *Giza in der 4. Dynastie*, 297.

²⁷ *ibid*, 305ff.

²⁸ Jones, *Index* I, 449, No. 1681.

²⁹ I owe this reference to Peter Jánosi. S. Hassan. *Excavations at Gîza II* (Cairo 1936), 75–86, 76, fig. 81 – façade of the tomb, 77, fig. 82 – ground plan. Dating: PM III², 274.

³⁰ Bárta et al., *Abusir XIII*, 307.

Mastaba core structure: new data from fourth dynasty elite tombs at Abu Rawash

Michel Baud and Eric Guerrier

The core or inner structure of the mastaba is the least studied part of this type of tomb, widely used in the Old Kingdom but mostly scrutinised for its two main components and their evolution, namely the chapel and the burial chamber. Earlier focus on epigraphy and decoration is certainly responsible for this situation, or rather its prehistory, since Egyptology has long since joined the mainstream of modern archaeological investigations and interest in architecture and archaeometry. However, while the structure and the building methods of the pyramids have attracted considerable attention (for better or worse), similar (but serious) studies on mastabas clearly remain in their infancy.

A number of factors certainly explain this situation. First, excavating a mastaba core cannot but be destructive and has been rightly avoided. However, a number of interesting observations can be made when the superstructure is in an incomplete state of preservation, which is usually the case: blocks belonging to the upper rows of the retaining wall(s) were frequently torn out for reuse, or simply fell down as a result of a combination of various natural forces. Second, as the cores mostly consist of rubble, it is certainly a painful task to examine them carefully and truly difficult to distinguish between original strata and demolition layers for the top, most accessible levels. From a logical perspective, this may appear to be a desperately time-consuming archaeology of little value. Third, as all the mastabas do not share the same structure, there is a great difference in the range of possible observations. As is well known, there was a growing development within the Old Kingdom towards an increase in the number and size of rooms within the superstructure, so that the core proper had less

volume than earlier; at the same time there was a growing tendency towards building smaller structures. As one may suppose, the reduced core was built with lesser means and care because its stability was not any more at the heart of the structural survival of the whole monument.

Mastaba structure: problems of definition

In the literature, such large bench-like structures are repeatedly considered as a simple mass of rubble retained behind an embankment wall, the whole surrounded by an independent casing. Because of their rectangular plan, solid mass, low height and simple facing without any sculptural refinement (not a 'façade' properly speaking), they have been considered as minimalistic buildings, also involving minimal engineering (the question of building process will not be addressed here, although it is closely related to our questioning about structure). Hence their cursory description which has never been the subject of academic analysis using normalised definitions, largely because the category of buildings to which they belong has no correspondence in Classical architecture. The very etymology of 'mastaba', as well as that of 'pyramid', says much about the folkloristic approach to these constructions.

It is important to recall here that Classical architecture almost entirely relies on structural principles and building components that aim at creating empty volumes supported by minimal walling and covering. In this respect, both pyramids and mastabas drastically depart from this model as their main component is a solid mass, which not only hides the way it was erected, but also the very idea of a special design of its structure. Even a simple term like 'wall' is problematic in this case, because it does not apply to a free-standing structure separating two spaces, but to the category of so-called retaining walls.¹ Two subtypes may be distinguished for mastaba architecture, although they closely relate to each other. In direct contact and connection with the nucleus stands an inclined retaining or embankment wall – the term 'facing' is perhaps more appropriate, since it belongs to the core and aims at consolidating and regularising its inner 'filling'.² Such a structure implies that both facing and fill are built at the same time. In the building process, this is not the case for the additional sloping peripheral wall(s), insofar as the intermediate filling always abuts the wall that immediately stands behind. The peripheral wall(s) are designed to consolidate the structure through one or two enlargements that usually belong to the original project of the mastaba. As enlargements, they should be called 'accretions', a term which is widely used to describe pyramid architecture, but not that of mastabas, although they share obvious similarities in this respect.³ The so-called 'casing' is the outer accretion. As a free-standing wall and not a true casing in its classical architectural meaning, it should be named 'accretion wall with

casing', though we will adopt here the traditional term 'casing wall'. Technically speaking, these accretions, because they are independent of the core, do not have the primary function of stabilising the nucleus (statically speaking, this would require walls abutting each other directly), but rather to counter the tendencies to collapse and creep (in other words, a dynamic process, see below).

As for mastaba architecture, the major study – still largely unsurpassed in many aspects – was published in 1942 by George A. Reisner and connected to his excavations of the 'nucleus cemeteries' at Giza, that is, the first groups of tombs on the local plateau, part of the initial royal plan.⁴ The excavations of Hermann Junker in the same areas also provide important information, sometimes more detailed, but not synthesised in a concluding volume.⁵ Reisner described these structures as 'a stone retaining wall filled with stone, gravel, and rubbish, or in better examples filled with solid masonry of small blocks set in plaster'.⁶ The retaining wall (*Kernmauerwerk* or *Mantelmauerwerk* in K. Holeý's terminology) is built with roughly cut blocks of a size varying from one mastaba to another,⁷ and inclined inwards or stepped backwards in order to contain better the pressure of the mass; the core (the retaining wall + filling) was surrounded by another wall of finer workmanship, called 'casing' (*Verkleidung*), whether stepped or dressed to present a sloping surface.⁸ As the two walls are usually not directly built one against the other, some kind of intermediate filling was used.

In Reisner's voluminous synthesis of 500 pages, only two are dedicated to the 'materials and methods of construction of the core-mastabas', where almost no supplementary information can be gleaned on the design of these 'stone-cased rubble cores'.⁹ He notes however that the erection of the retaining wall (and casing of the shafts), and filling of the space within, was performed *pari passu*, that is 'moving together' level after level. The typology that follows these introductory remarks does not provide more information about the core, although it is named 'the types of cores' – indeed, only the type of retaining wall is involved, apart from cursory remarks about the composition of the filling, such as 'sand, gravel, rocks, and rubbish'.¹⁰ Rarely in the description of individual mastabas can the reader find more data, such as 'retaining wall of small stepped courses (...) filled with gravel and sand ; *irregular compartments in the filling*, built of rough stones sometimes mud-plastered on one side'¹¹ (our emphasis); such interesting data are unfortunately not reported on the plans or sections. It should also be noted that the descriptions of Holeý and Junker give a more complex picture for mastabas of cemetery G 4000, such as a type consisting of a nucleus with layers of small stones or, locally, layers of stone chips, sealed with clay mortar.

Later literature on mastabas is usually heavily based on Reisner's typology, so that descriptions are often minimalistic, if not referring simply to his core type number (that is, once more, wrongly limited to only the type

of retaining wall). Few studies depart from this model and detailed descriptions remain extremely uncommon, although they always pinpoint interesting data and should therefore trigger curiosity towards this kind of architecture.

Principles of construction

As early excavators of mastabas such as Reisner, Junker, Bisson de la Roque and others have noticed, apart from rare examples built in more or less solid masonry, a mastaba is usually a composite structure made of a mass of rather loose building material, but layered and enclosed by a peripheral 'wall', or rather embankment that belongs to the nucleus, and an accretion called the 'casing'. Such a massive construction, even if not of a considerable height, is subject to gravity and its two effects, creep and collapse. 'Creep' is an internal phenomenon of mass compression which produces a widening of the base of a structure. Collapse is an external phenomenon that degrades the faces of a mass and lops off its edges. Even if the ancient architects were not experts in the physics of gravitational forces, they were obviously aware of some of their effects. Theoretically, they could mobilise three main principles in order to obtain building stability:

1. Enclosure of the filling by one or several retaining wall(s);
2. Partitioning the mass by dividing walls;
3. Stratification of the mass by homogenous layers.

Although these principles are known individually in mastaba construction, they are not recognised as part of a whole system. Partitioning for example, is a well-known building method in early mud-brick mastabas which were designed with a chequered plan; although some of the 'rooms' therefore created were used as magazines, or, at a lower level, burial apartments, most were simple casemates to ensure the stability of the large mass of the building.¹² Construction in stone, from an evolutionary perspective, is considered to have replaced the casemate type building by the retaining wall and filling system of large tombs, where only careless stratification seems to be in play and no partition needed. Hence our surprise to discover a more complex picture at Abu Rawash, where elite mastabas of the fourth dynasty could be investigated.

The Abu Rawash project was initially focused on an historical perspective, namely to demonstrate that this forgotten site, cemetery 'F', was the Royal necropolis of king Djedefre, who was buried in a pyramid 1.5km further west.¹³ Very soon however, the mastabas were also scrutinised in order to understand their very structure. Observations were made possible by the poor state of preservation of the superstructures, which, after some minor clearance, revealed important data on the core structure and building process.

As mentioned above, a major additional factor was the mastaba type. Because the tombs under consideration dated primarily to the fourth dynasty, they display the normal solid superstructure typical of the period, only interrupted by a small interior chapel and the two shafts leading to the burial apartments.¹⁴ The core proper is therefore the main component of the superstructure and has received, as one may have guessed, special treatment to stabilise its imposing mass. Additionally, the mastabas of this cemetery are of large size, because the area is devoted to the elite of the kingdom, especially to the King's sons. All the conditions for a detailed investigation were therefore gathered, and some of its results are briefly given in this short paper; comparative data will be reduced to its minimum, as our aim is primarily concerned with presenting fresh data.

Mastaba F 37: pavements and casemates

This tomb of about 50 × 25 m is one of the largest in the necropolis, if not the largest when one considers that other mastabas of similar size are in fact twin-tombs (F7, F19, and possibly F13) while F37 included only one chapel. Topographically, it is the dominating structure of the whole southern part of the cemetery, placed in front of a group of smaller mastabas (most unexcavated to date) divided into four irregular rows. Cleared by Charles Kuentz in 1931, this mastaba unfortunately remains anonymous, though the important title of 'King's son' was brought to light on a fragment of false-door. As a leading construction within the royal cemetery, a date within the reign of Djedefre is almost secure, although, like at Giza, its decoration may have been postponed – but not necessarily – to a later date within the fourth dynasty. The tomb does display elements which are in keeping with the elite status of its owner: the two-room interior chapel, instead of the usual single 'L'-shaped one so typical of the period; also the large offering-list that slightly predates the 'canonical' list of the end of the fourth dynasty and later. Therefore, both its architecture and decoration (of which so little have escaped destruction) represent a milestone in tomb development which has to be underlined, especially since it contradicts both the hypothesis that the process of multiplying inner rooms was triggered by the creation of rock-cut tombs at Giza in the late fourth dynasty,¹⁵ and that the canonical offering list does not appear before the reign of Menkaure.¹⁶

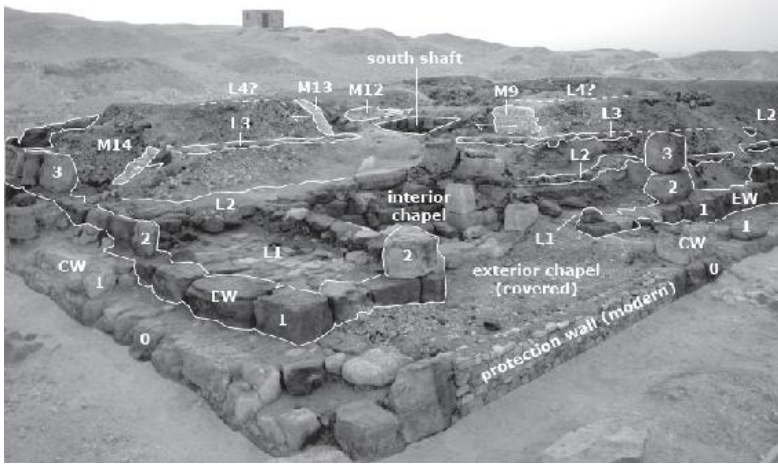


Fig. 1: Southern half of mastaba F37, side view from its south-east angle towards north-west. The east side is on the right and south side on the left. Legend: EW embankment wall, CW casing wall; numbers here refer to courses of blocks. L1–3 correspond to levels of “pavement”, L4 a possible layer for roofing; M numbers are for partition walls, the direction of which (north-south or east-west) is indicated by an arrow

The core of this tomb, which is not exactly rectangular (dimensions: $47 \times 21\text{--}22$ m) is not simply built according to the system of the ‘filled mastaba’ with retaining wall, but appears as a more complex construction.¹⁷ The embankment wall (EW) is a stepped construction of large blocks, with a set-back of about 20 cm from course to course – as far as we can judge, since most of the structure has been dismantled above the lower layer (Fig. 1, EW courses 1 to 3). Because of the rather steep west-east slope on which the mastaba was installed (5.5° , from asl 69.15 m west to 66.70 m east), the first course of the retaining wall is reduced to the eastern half of the finished core and its blocks are of diminishing height towards the west. Only the second and higher courses displayed a complete belt of stones, of which very little remains for the third course and even less for the fourth one, the latter reduced to half a dozen isolated blocks on the west side, only one of which seems complete in height. Enough remains anyway to ascertain that the top of these successive courses were at asl 68.80 m for level 1, 69.75 m for level 2, 71.00 m for level 3 and 72.10 m for level 4, that is an average height of 1 m, roughly two cubits. Some of the blocks are not of this height and were replaced by smaller stones arranged in sub-courses. On the front of several blocks belonging to the first course of the eastern section of the core wall, a red level line is found at asl 68.46 m (north) / 68.54 m (south), which indicates that level 0 (Egyptian *nfrw*¹⁸), although not exactly horizontal, was at asl 68.00 m; this level corresponds to the top of the foundation platform, or rather bench, supporting the casing (CW), a narrow construction abutting

the core (Fig. 1, CW course 0). Such marks in red have more to do with the building of the casing than the core itself, as is also evident from similar marks on the backing-stones of the pyramids.

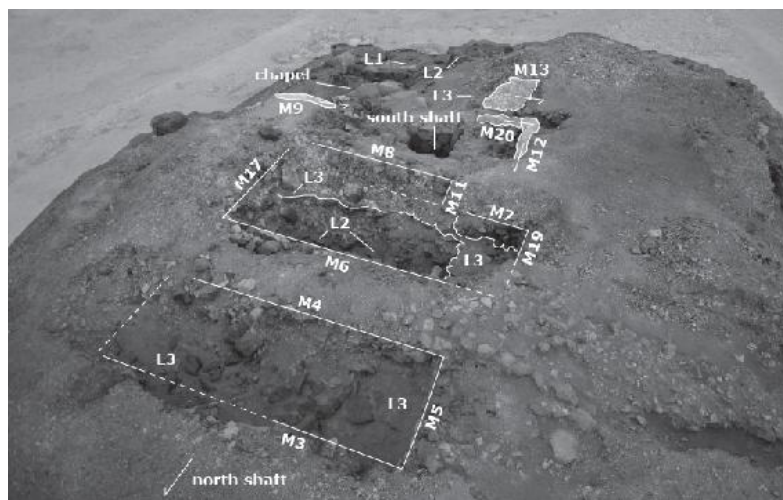


Fig. 2: Southern half of mastaba F37, view of the core from top towards the south, showing two casemates. Legend as for Fig. 1

The unfortunate removal of most of the stepped retaining wall however revealed that the expected simple filling of the core was in fact organised in a very careful way. In correspondence with the top of every course, a stratum of flat stones was found inside the core, laid out in such a way that it looks like a pavement, although the space between the blocks is usually important and not filled with mortar (Fig. 1, levels L1 to L3). These ‘pavements’ were not restricted to the area adjacent to the retaining wall, as one may have supposed, but were found everywhere inside the areas of the nucleus which could be examined. After removing the debris that partially filled the old test excavations made by Kuentz north of the northern shaft, the area between the two shafts (Fig. 2) and behind the southern inner chapel revealed more of these pavements at the expected levels. No such slabs were found at the top level of the fourth course, around asl 72.00 m, which may therefore be considered as the roof of the mastaba (Fig. 1, level L4), although one may expect more than a 4 m high structure for such a huge building.

Although the areas under scrutiny are no more than small windows into the structure in order to avoid further dismantling of the core, we discovered that the pavements were furthermore associated with partition walls (Fig. 1, Fig. 2 features called ‘M’). These walls were found resting on the pavements of levels 2 and 3, without apparent correspondence in plan from one level to another. It is hard to tell whether they form a regular pattern of casemate construction or not, although two such rooms were found at level 3: of rectangular shape, they seem to be centred on the north-south axis of the

mastaba (Fig. 2) and quite regularly spaced between the two shafts, if an additional and similar room was created immediately south of the northern shaft, a point which remains uncertain. The small portion of a north-south wall belonging to level 2 also seems to divide the length of the mastaba into two halves (Fig. 1, wall M14). These partition walls are either built of medium size stones and are a maximum of 1.00 m thick, or are made of smaller stones of irregular but elongated shape, set either as headers or stretchers; in this case we rarely found the two faces of such walls which seem rather large, 1.50 to 2.50 m for the central casemates, the walls including an intermediate fill of small stones and chips (Fig. 2, walls M4+M6, M7+M8).

Mastaba F40: a variant of the paved fill

This mastaba is a medium size tomb, 26.8 × (probably) 13.4 m, also dated to the fourth dynasty. The casing is built of mud-brick and, surprisingly, encloses a stone core (Fig. 3). The core of this tomb could not be thoroughly investigated in order to avoid further destruction. Because of a large fosse which completely destroyed its north-east angle, a section through the casing, retaining wall and filling could however be examined (Fig. 4), as well as the neighbouring perimeter of the structure, as revealed by surface clearings (Fig. 5).



Fig. 3: East face of mastaba F40 showing the mud-brick casing and the stone core (visible through small openings). View to south-west

Its core consists of a retaining wall of small limestone blocks, approximately rectangular and only 20 to 30 cm in size, built in low steps about 30/40 cm high. Behind each step starts a layer of small stones which

are not especially laid flat, but still in a manner reminiscent of the pavements of F37 and similar layouts at Giza.¹⁹ Because the stones are small, very different in shape and not carefully laid out, the general impression is rather poor, although in section, as in plan, the successive levels are very distinctive (Fig. 4, Fig. 5, levels 1 to 6). This is reinforced by the fact that the stone layers always rest on a thin layer of limestone chips, the thickness of which is adapted to the height of the stones to be laid down on it, ideally at the same level as the top of each course of the retaining wall. This means that a certain care was taken over the filling, or rather, the successive construction of the core. This system seems to have been designed to reinforce the apparent weakness of the heads of the steps (rectangular stones of small size), and is therefore very different from F37 and its imposing retaining blocks. At F40 also, because of the multiplicity of thin ‘pavements’, no partition walls were used – it was simply impossible to build them within such narrow levels.

The retaining wall of F40 has a rather shallow slope of 11–15°, certainly designed better to push back the volume of the layered construction. It contrasts sharply with the 7.4° slope of the casing (Fig. 4). Curiously, this accretion is built of mud-bricks, covered with a coating of bright yellow clay probably in order to imitate fine, glittering limestone. On the inside, the bricks abut against the stone wall and are therefore stepped inwards; they also adapt in height to the latter, that is, two or three courses laid flat, or on their side if required. The casing, because of the difference in slope, broadens towards the top. At its base, this outer accretion is 1.10 m thick; at the height of 2 m, it is estimated at 1.30 m. Without the presence of the usual intermediate fill between casing and retaining wall, the strength of the structure is therefore reinforced at its weak, higher level.

Mastabas F48 and M9: the triple belt system

Another pattern of ‘filling’ the core, presumably more frequent, is its horizontal division into simple, unpaved strata. Contrary to the usual assumption of a rather careless accumulation of the layers, we discovered nonetheless that these layers were regularly levelled horizontally. As if to compensate this minimal investment, two tombs from our sample of five display a similar effort towards the enclosing of the mastaba: in both cases, one supplementary accretion (AW) between the embankment (EW) and the casing (CW) was added.

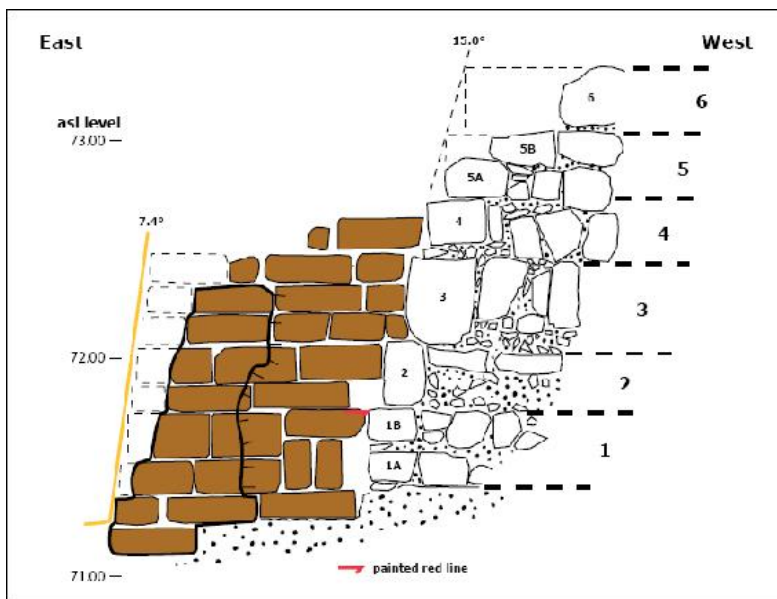


Fig. 4: F40, east-west section through the core and casing in the middle of the east side of the mastaba

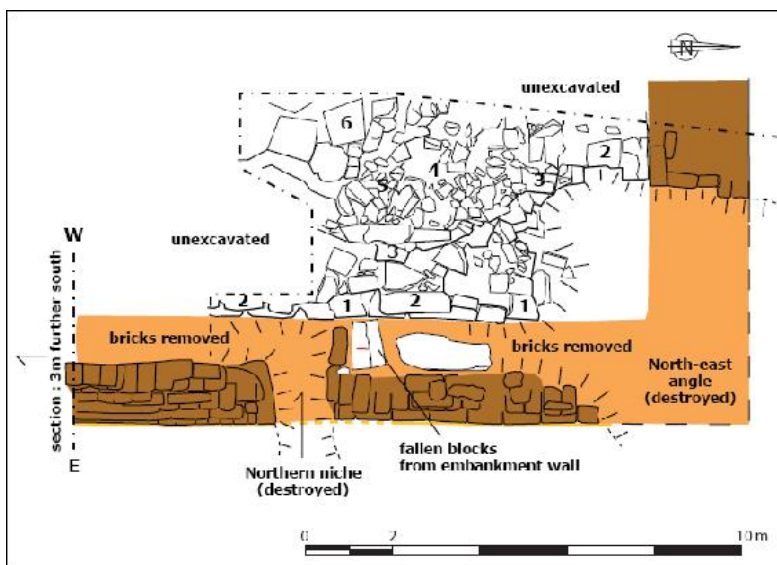


Fig. 5: F40, plan of the north-east part of the mastaba and its stone layers

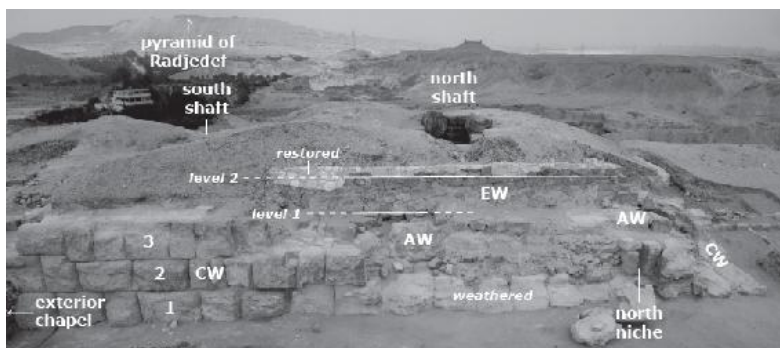


Fig. 6: East face of mastaba F48, north of the chapel, frontal view towards west. Legend as for Fig. 1; AW stands for (first) accretion wall

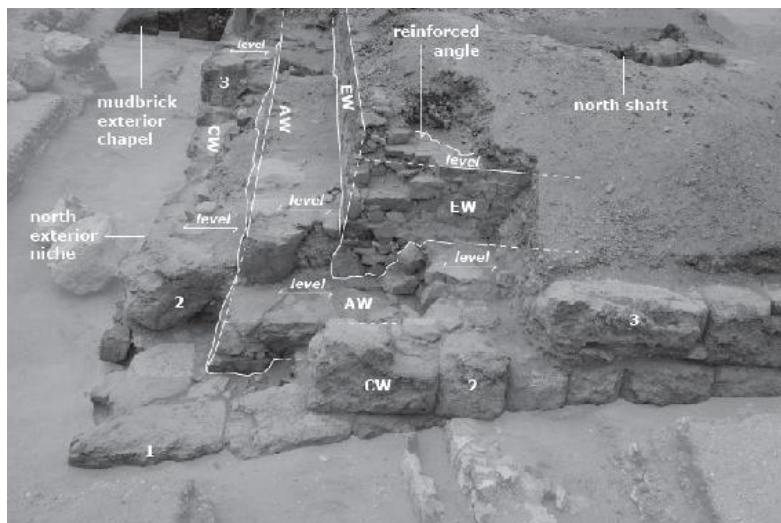


Fig. 7: Eastern half of mastaba F48, showing its north (frontal view, right) and east (lateral view, left) sides, view towards south. Legend as for Fig. 6

Tomb F48 is a large mastaba belonging to the final row of the southern field. It belonged to an anonymous ‘King’s acquaintance’ and ‘director of the members of a phyle’,²⁰ a typical administrative title for the royal priests responsible for the organization of the cult at the funerary temple, here no doubt that of Djedefre.²¹ Architecture, decoration and pottery date this official with confidence to the middle of the fourth dynasty and not much later.²²

Although the core of the building could not be investigated, its periphery revealed much about its structure. The filling is contained behind the embankment wall, made of small, roughly dressed stones set up in barely receding steps. The result is therefore not a stepped wall, but a rather regular outer face which has a steep inward slope of 8.5° from the vertical; a clay

mortar was used to fill up the empty spaces between the stones on their visible face only (Fig. 6, Fig. 7, EW). This masonry is made of stones of different dimensions and there is no attempt to organise them into regular courses, contrary to the usual practice.²³ Only at a certain height of this facing wall are the stones chosen so as to obtain a horizontal level, namely at asl 78.15 m and 79.30 m (Fig. 6, levels 1 and 2), that is 2.30 m and 3.45 m above the *nfrw* reference level, which corresponds as usual to the top of the foundation bench of the casing, as demonstrated by the red level line found on some blocks of the first accretion (other such lines were found at asl 77.85 m, that is, at four cubits in height from the zero-line).

This accretion (AW) is made of large stones also laid flat but stepping backwards, this time to obtain a shallower slope of 14 to 15°. The distance between the two accretions is about 1.50 m front to front. At regular intervals, the filling of small stones and chips between these walls has been carefully levelled in correspondence to the top of a course of the accretion, and topped either by flat stones or a thin layer of lime plaster mortar (Fig. 7, 'level' between EW and AW). Three such levels were identified at asl 77.30/.35 m (course 3, including the raised foundation course), 78.45/.60 m (probably course 5) and 79.30/.35 m (probably course 6, of which nothing remains), that is, between about 1.20 m and 0.80 m in height. This last level of 79.30 m is also in correspondence with the highest preserved regular course of the core embankment wall.

Finally, the second accretion, the casing (CW), was set at an angle similar to the previous one, namely 15–16°, and again built 1.50 m in front of it. While the other accretions are of local, grey, limestone, the casing was built of fine Turah limestone and prepared to receive smoothing, but the blocks were left undressed with their largely protruding bosses (Fig. 6, Fig. 7).

The careful construction of the core, with its embankment and two accretions, that is, a triple belt system, is certainly a very efficient means to counterbalance the pressure and thrust exerted by gravity on the filling, especially since its mass is not enormous in this case: in perimeter, it represents about 290 m² (shafts and their casing excluded), as compared with a total mastaba area of 740 m², that is 40% of the extent only. It is therefore surprising to find the same system reproduced in a much smaller mastaba, M9. This tomb²⁴ of 13.60 × 10.60 m belongs to the eastern cemetery 'M' where some Old Kingdom mastabas are scattered around the first dynasty elite tombs.

In this case, the retaining wall (EW) and the first accretion (AW) are of the same type and slope, between 12 to 15° depending on the side of the tomb; their facing is set about 0.75 m apart (Fig. 8). Like the embankment wall of F48, they are built of small stones, adjusted in order to obtain a straight facing. Most are laid flat and set up slightly backwards course after course, but others are also set down with an inward slope, so that their outer

edge, cut at a right angle, is that of the surface of the resulting wall – in the manner of the sloping accretion layers of third dynasty pyramids. The voids between the blocks are filled in with mud plaster on the front part only and, widely applied, it tends to cover it in the manner of a coating. An important clue here is that this coating is not similar from bottom to top of a wall but presents itself as separate horizontal bands about 30 to 45 cm high, as far as we can judge from the areas which could be investigated. The bands alternate yellow clay, white mortar, brown to red sandy clay, and white or yellow clay including limestone chips (Fig. 9 for an example). For the first accretion, these changes seem to correspond to the levels of the courses of the casing, which is built of rectangular blocks arranged in stepped courses about 30 cm high (Fig. 8, CW); the intermediate blocking of limestone chips and small stones set between the two walls was also regularly levelled, at the same successive levels, by a layer of red beaten earth. There is no such clear connexion between the retaining wall and the first accretion, obviously because they are not built with regular courses, but there are similar bands of coating alternating here also.

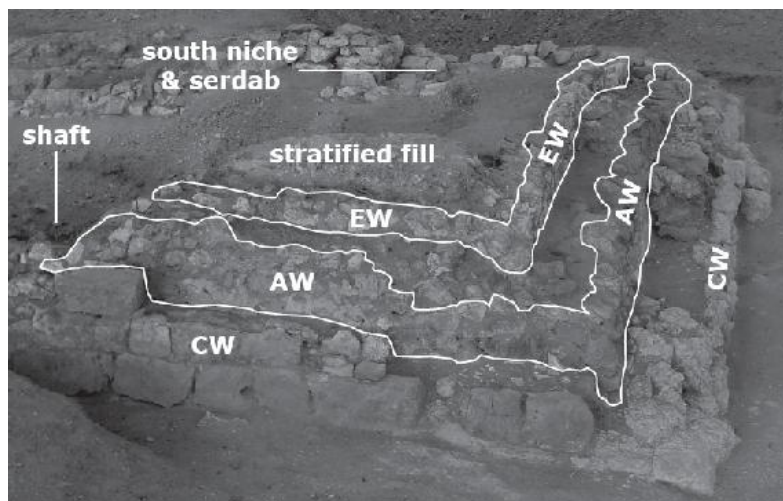


Fig. 8: Southern half of mastaba M9, showing its west (frontal view, left) and south (lateral view, right) sides, view from west ('back') towards east

Obviously, the filling of the core was dumped inside the retaining wall at the same rate as it was erected, course by course (the *pari passu* system of Reisner). Here, the variety of material – red earth with stone pebbles, beige clay with dark grey *tafla* fragments, light grey clay with white limestone chips – offered a very helpful means for differentiating up to six different layers about 25 cm thick each, which more or less matches with the height of the bands of coating or that of the courses of the casing. These layers are rather irregular in thickness and barely horizontal, but at level asl 58.65 m, in the only preserved south-western part of the filling, the sequence is sealed by

a thin layer of brown hard packed clay, laid out in the manner of a floor (its level is about 1 m higher than the nearest foundation level of the casing).

Conclusions

The five mastabas which were tested at Abu Rawash, of which four are scrutinised here for their structure, all combine two or three of the structural means which could be mobilised to counter gravity, namely enclosing, partitioning and stratification. A variety of solutions could be adopted for each of them.

Stratification for example, can be obtained through the simple accumulation of loose material in separate strata (M9, possibly F48), but also with layers of small stones interspersed with levels of limestone chips (F40), or even ‘pavements’ of irregular stone slabs (F37, a unique example to the best of our knowledge).

Partitioning is only found at F37 and seems an isolated practice, possibly connected to its imposing mass. This conclusion may not be correct however, because similar cases are reported elsewhere,²⁵ however poorly recorded, if at all.²⁶ This practice is somewhat reminiscent of the first dynasty way of building large mud-brick tombs in a chequered pattern, although in this last case the construction is very regular and not fully dedicated to the stability of the building, since some of the rooms are functional. The present example of F37 underlines however that old practice is never entirely forgotten.



Fig. 9: A portion of the accretion wall of mastaba M9, showing two levels of coating

Lastly, our sample also demonstrates that enclosing can be obtained by up to three successive ‘walls’, namely an embankment of the core and one or two accretions (casing included), all rarely built the same way. The

discovery of examples of three belt structures is an important key to relate mastaba construction to that of the pyramids, insofar as these are built in accretion layers around a central nucleus. Even if the core is high in the latter case and low for the mastabas, the structural identity is striking and further supports the identification of the peripheral envelopes of the private tombs as ‘accretions’, which they indeed are. One may also wonder if, like the pyramids and the first royal tumuli of the Early Dynastic period, structural principles do not also relate to symbolic meaning. In this case, it could be the symbolism of the double mound, one hidden, the other visible, as a means of resurrection.²⁷

¹ For which see D. Arnold, *Building in Egypt. Pharaonic stone masonry* (New York & Oxford, 1991), 148–179, summarised in *ibid*, *The Encyclopaedia of Ancient Egyptian Architecture* (London 2003), 137–138 ‘masonry’.

² At an early historical stage (perhaps) of construction, this can also be a standing wall with a similar batter on both sides, i.e. trapezoidal in section and very similar to an enclosure wall: see the case of the early fourth dynasty mastaba of Netjeraperef in Dahshur, N. Alexanian, *Dahschur II. Das Grab des Prinzen Netjer-aperef. Die Mastaba II/1 in Dahschur* (AV 56; Mainz 1999), 30–32; this study is of the highest standard for the description of mastaba structure and has been a source of inspiration for our own work.

³ According to J.-P. Adam in C. Ziegler, *Le mastaba d'Akhetetep* (Paris-Louvain 2007), 48.

⁴ G. A. Reisner, *A History of the Giza Necropolis I* (Cambridge MA 1942), *passim*.

⁵ See e.g. H. Junker, *Giza I. Bericht über die Grabungen auf dem Friedhof des Alten Reiches bei den Pyramiden von Giza* (Vienna 1929), 14–17, and 91–94 (the latter by K. Holeý); see now the synthesis by P. Jánosí, *Giza in der 4. Dynastie. Die Baugeschichte und Belegung einer Nekropole des Alten Reiches I: Die Mastabas der Kernfriedhöfe und die Felsgräber* (Wien 2005), *passim*. See also some cursory remarks in F. Bisson de la Roque, *Rapport sur les fouilles d'Abou-Roasch* (1923–1924) (FIFAO 2.1; Cairo 1925), 80–87, for mastabas at Abu Rawash.

⁶ Reisner, *Giza I*, 6.

⁷ Not just a single row of blocks, but sometimes up to three when the stones are small (Holeý in Junker, *Giza I*, 91).

⁸ Whether or not this wall was effectively built in a later stage is not an issue in the present paper, but remains crucial to the architecture of the Giza nucleus cemeteries and their chronology. See the synthesis of Jánosí, *Giza*, especially 177–203, from the data of both Reisner and Junker.

⁹ Reisner, *Giza I*, 37–38.

¹⁰ Reisner, *Giza I*, 39–56.

¹¹ For G 1201: Reisner, *Giza* I, 385.

¹² For a recent review on this type of mastaba at Giza, see S. Hendrickx, 'Les grands mastabas de la IV^e dynastie à Saqqara', *ArchéoNil* 18 (2008), 60–83.

¹³ M. Baud et al., 'Le cimetière F d'Abou Rawach, nécropole royale de Rêdjedef (IV^e dynastie)', *BIFAO* 103 (2003), 17–71; Y. Gourdon, 'The Royal Necropolis of Redjedef at Abu Rawash (seasons 2001–2005)', in M. Bárta, F. Coppens and J. Krejčí (eds), *Abusir and Saqqara in the Year 2005* (Prague 2006), 247–256; see also the recent interim reports in *BIFAO* 104 (2004), 594–598; 105 (2005), 417–422; 106 (2006), 347–351 and 107 (2007), 260–264.

¹⁴ P. Jánosi, *Die Gräberwelt der Pyramidenzeit* (Mainz 2006), 33–59 for a recent synthesis.

¹⁵ Reisner, *Giza* I, 219 sq., 247; see however Jánosi, *Giza*, 305–344, for a revision of their date (as early as Khephren) and the complex relationship between rock-cut tombs and mastabas; also Jánosi, *Gräberwelt*, 60–78.

¹⁶ Baud et al., *BIFAO* 103 (2003), 45, fig. 13:2.

¹⁷ It was thoroughly investigated and recorded by my colleague D. Farout, to whose unpublished report the present development owes much.

¹⁸ The reference line painted red and from which all the following lines at a higher level (more rarely, lower) were measured in cubits, drawn and named accordingly (1 [cubit], 2 [cubits], and so on) during the process of erecting the mastaba.

¹⁹ Holeý in Junker, *Giza* I, 91, but using stones of slightly larger size, about 20 to 30 cm.

²⁰ D. Jones, *An index of ancient Egyptian titles, epithets and phrases of the Old Kingdom* (BAR int. ser. 866, Oxford 2000), 697, no. 2546.

²¹ Baud, *BIFAO* 104 (2004), 596–597; more developed in *ibid.*, 'Un "signe des temps" revisité : la direction du culte funéraire royal sous la IV^e dynastie, la nécropole d'Abou Rawach et la chronologie de Gîza', to be published in a forthcoming *Festschrift*.

²² M. Baud and N. Moeller, 'A Fourth Dynasty royal necropolis at Abu Rawash', *Egyptian Archaeology* 28 (2006), 16–18.

²³ As for example, the retaining wall of the cores described by Holeý in Junker, *Giza* I, 92–93, or Reisner, *Giza* I, 40–49.

²⁴ M. Baud, 'Un décor de tombeau remis en contexte : le "scribe au travail" du Louvre (E 14 321) et le mastaba M IX d'Abou Rawach', *RdE* 58 (2007), 1–28; some information about its structure on p. 4–5.

²⁵ As for example in Giza for mastaba G 1201, see above n. 11; a recent but somewhat different example at Abusir is the double mastaba L25 with its 'kind of inner chambers', see J. Krejčí, V. G. Callender, and M. Verner, *Abusir XII. Minor tombs in the Royal Necropolis I* (Prague 2008), 161–162, 175–176.

²⁶ Such is the case for the group of mastabas near the south-east angle of the complex of Djoser at Saqqara (Porter-Moss III², 632–633), where a similar pattern could be sketchily recorded on the surfacing level of the core.

²⁷ See the pioneering study by G. Dreyer, ‘Zur Rekonstruktion der Oberbauten der Königsgräber der 1. Dynastie in Abydos’, *MDAIK* 47 (1991), 93–104; some more recent developments are summarised by M. Baud, ‘Du complexe enterré au mastaba révélé : l’invention de l’architecture funéraire et des dispositifs culturels’, in M. Etienne (ed.), *Les Portes du Ciel. Visions du monde dans l’Egypte ancienne* (Exhibition Catalogue; Paris 2009), 201–202, with bibliography.

The art of Egyptian hieroglyphs as seen by the Akhmim painters

V. G. Callender

The mountain of el-Hawawish lies approximately midway between Aswan and Cairo and is not far distant from the site of the Old Kingdom settlement at Akhmim. Over time, Akhmim acquired an extensive cemetery and it is here that teams from Auckland and Macquarie Universities, under the leadership of Naguib Kanawati, worked for approximately a dozen years recording those paintings and inscriptions that have survived from the badly damaged tombs there, many of which are today anepigraphic.¹ In addition to the records from the tombs, there are a number of engravings and paintings on limestone stelae, a handful of wooden objects and, finally, there are paintings known from just twenty-five coffins taken from Akhmim and distributed to a number of museums within and outside Egypt.² The sum of these records has formed the basis of research on which I am at present working.

The French Palaeography Project

As part of a vast palaeographic project under the guidance of Dimitri Meeks (University of Montpellier),³ my work is based on records published by the Australian Centre for Egyptology.⁴ The overall palaeography project aims to collect as many forms of hieroglyphs as can be gathered from writing of dynasties 1–30, and my assignment is to record the late Old Kingdom signs that appeared in the Akhmim area around el-Hawawish during the period from the late fifth dynasty to the First Intermediate Period. It is hoped that this work will not only reveal variant forms which ancient scribes used in the Akhmim area at this time, but will also identify new hieroglyphic forms so far not included in the Old Kingdom palaeographic record.

All students of Egyptology initially rely on A. H. Gardiner's Egyptian Grammar, and we have come to know Gardiner's sign list as an indispensable aid in learning to read Egyptian texts. Nonetheless, we need to remind ourselves that Gardiner compiled his work around 1929 – almost a century ago – and it is therefore not surprising that his list of signs does not include hundreds of signs with which present-day scholars are familiar. It is the aim of the French Palaeography Project to make available a range of signs, both typical and atypical, for each major period in the Egyptian scribal tradition, so that the compendium of hieroglyphs scholars use will in future be more substantial. Furthermore, the project hopes that the new list will not consist – as it does in part today – of signs that tend to be composites. Hopefully, this new work will provide scholars with a fuller and more accurate guide to the actual hieroglyphic repertoire.

The Akhmim corpus

As mentioned above, the Akhmim corpus consists of records taken from images on tomb walls, stelae and various funerary items, in particular, painted wooden coffins. In no sense as large as the formidable number of hieroglyphs written in the el-Hawawish tombs, the Akhmim sarcophagi inscriptions stretch chronologically from the latter part of the fifth dynasty, well into the First Intermediate Period.⁵ Although they are painted on wood, these signs show comparability with the hieroglyphs in the tombs, where some of the signs were painted, but others were carved and painted. Unfortunately, not all these signs written on stone are in a sound condition today, so some of the records preserve incomplete outlines or display an occasional flaw (but no attempt has been made to correct such signs for a better presentation in the current work). On the other hand, signs ranging from the sixth dynasty up to the ninth recorded on the Akhmim stelae are generally well preserved. Edward Brovanski⁶ has sorted these stelae into three artistic categories that end in the Herakleopolitan period and these hieroglyphs not only show some conformity with the artistic work of the tombs, but also work from other provinces during the same period of time.⁷ The third major group within the Akhmim corpus consists of painted wooden items, mostly coffins. Chronologically, the majority of the painted coffins overlaps the dates of the stelae and continues into the eleventh dynasty.⁸ Thus, although a huge amount has been lost or destroyed, there is the possibility of mapping the progress of the hieroglyphic transmission from the late fifth dynasty down to the onset of the Middle Kingdom for yet one more⁹ area of Upper Egypt.

As is true for other regions of Egypt, these hieroglyphic records of the Akhmim artists contain examples of actual hieratic signs, very summary examples of hieroglyphs (both painted and carved) through the standard

hieroglyphic range to extremely competent and even artistic signs. One notes, however, that the hieroglyphs painted on the Akhmim coffins are an even more diverse and interesting collection of hieroglyphs than either the stelae or the tombs display, and they contain many variants of standard signs. This situation may be due to the fact that the media used for coffin painting have a more malleable and more intimate nature than the media afforded by the tomb wall inscriptions. Signs carved – or even those that are painted – on walls necessitate a distance between the artist and his¹⁰ surface; this distance is more marked in the case of artisans with a hammer and chisel cutting into the wall, where the distance from the artist's eye to his hand is not only greater, but also much more difficult physically. Even though an artist with just a brush has more control in a tomb environment, he must still work on a surface which is vertical and immovable. Such a distance is reduced for coffin painters, who have a more intimate atmosphere for their work, can exercise a greater control over a brush than a mason can have with his chisel, and can circle around the object that he is painting to get better access and control.

Scribal skills

In this paper I wish to concentrate on the artistic quality within the Akhmim corpus. Of course there are differences between the artistic qualities of all hieroglyphic signs from one end of Egypt to the other, whether they be extraordinary signs or more basic hieroglyphs. There are also differences in both the style used and the competence of the craftsmen from one tomb's hieroglyphs to another but, in general, Akhmim artists reveal a skill in the cutting and painting of hieroglyphs that was among the most competent of their day. Concerning the Akhmim stelae, Brovarski¹¹ remarks that these stelae owners were able to command better work than was available in other Upper Egyptian nomes at the time. Of course, this difference in artistry is more noticeable when one compares the very late Old Kingdom and First Intermediate Period examples from Akhmim with stelae from other regions, but the Old Kingdom signs are also well made as a rule.

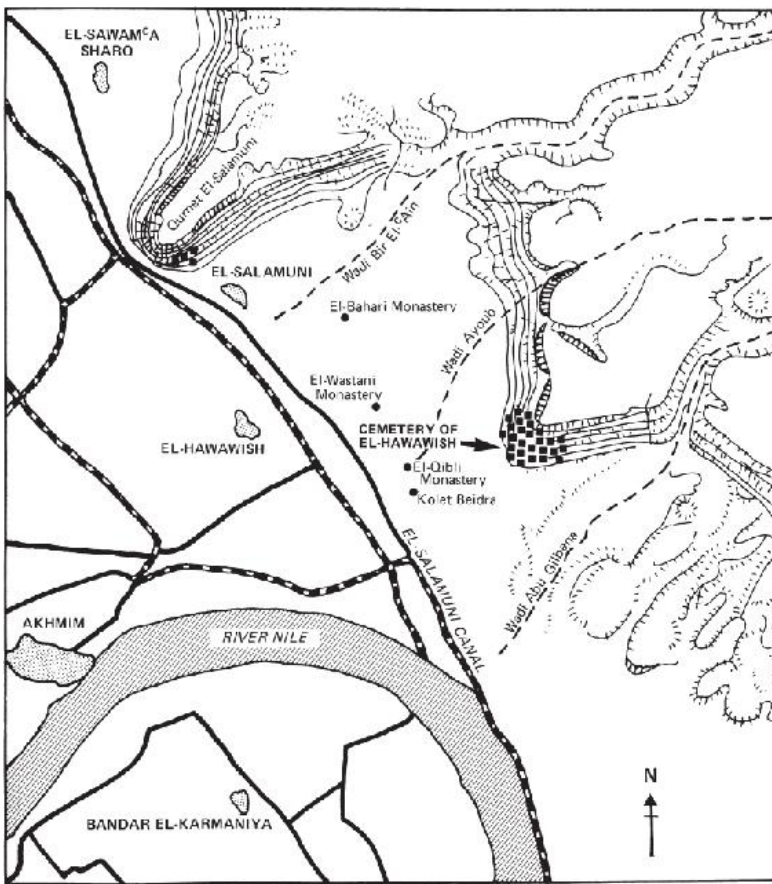


Fig. 1: Map of the el-Hawawish region, from N. Kanawati et al., The Rock Tombs of El-Hawawish. The Cemetery of Akhmim I, Sydney, Fig.1, by kind permission

There seems to be a sound economic basis for this remarkable artistic competence evident in the Akhmim nome. In prehistoric times, the Nile River carved out a huge C-shaped deviation in its course from south to north (see map, Fig. 1). The land surrounded by this deviation became a fertile flood plain, thick with sedimentary soils that resulted in a rich agriculture for the Neolithic settlers who eventually came there. This low-lying plain was also very encouraging for the production of large quantities of flax and, as linen was the primary woven material for people in ancient Egypt, the linen of Akhmim became a prime commodity for trade in the Old Kingdom.¹² The affluence of the population, therefore, must have encouraged artistic excellence even in the difficult times surrounding the collapse of the Old Kingdom and the onset of the First Intermediate Period. Indeed, Akhmim is still pre-eminent in textile manufacturing and processing today and the citizens of the area are better off than those in some of the other governorates.

We noted above that there is always a customary variety within Egyptian hieroglyphs from every period.¹³ As in other centres throughout Egypt, in the execution of their work the Akhmim sculptors and painters wrote their texts with standard Old Kingdom Egyptian hieroglyphs, but they also developed and adapted some of these signs to express an individualism that is unique to Akhmim. Sometimes, similar variations can be seen in work originating in neighbouring nomes¹⁴ and, sometimes, even further afield.¹⁵ At times, the changes made by the artists are very subtle; at other times, the changes are more noticeable and the hieroglyph may have a different form, while still presenting a similar idea – as, for example, the substitution of a cow¹⁶ for a bull in the word for ‘cattle’. I refer to such substitutions as a visual metaphor or an artistic pun – and there are many of them among the collection I have been reviewing over recent years. Other hieroglyphs can only be described not as conversions of a standard form but as new hieroglyphic signs. In this report we will examine each of those categories: adaptations, substitutions, radical alternatives and new signs, as well as glimpsing some of the stages by which a few of those changes may have taken place.

To defend my use of the term ‘artists’, let us look initially at some of the artistic attributes present in various painted hieroglyphs – most of them in this paper coming from coffins from Akhmim.

Mastery of form

The foremost quality of an artist is skill in the handling of pen or brush and most of the Akhmim artists certainly display this ability. These signs usually display a fluidity of line and sureness of form that speaks of frequent practice and artistic competence. Take, for examples, the expert rendering of a crouching man¹⁷ (Fig. 2.1, a new sign, with no equivalent in Gardiner's list). The man is kneeling with his legs displayed realistically, his weight balanced upon his bent toes, buttocks resting on his heels whilst he extends his gazelle-headed wand in a protection gesture. Or, consider the drawing in Fig. 2.2 of a leg for the hieroglyph *b*,¹⁸ where the artist has shown unusual mastery over the depiction of a leg, which is so different from the basic hieroglyph, , the phoneme *b*, that we need to call this sign a variant of Gardiner sign D58. The Akhmim example has a shapely calf and a realistic knee – though the foot is too long and too thin.

The rendition of a face (Fig. 2.3) differs from the usual representation of  ¹⁹ it is very sensitively drawn and the face shows an individuality not present in standard versions of the sign, but it also reveals the artist's mastery of line. Other depictions of head hieroglyphs in some examples from the painted coffins also show an individuality and, in a few cases of the Gardiner sign

D1 (5), shows the hieroglyph sporting a short beard with a distinctly First Intermediate Period strap²⁰ attached to the beard (Fig. 2.4).

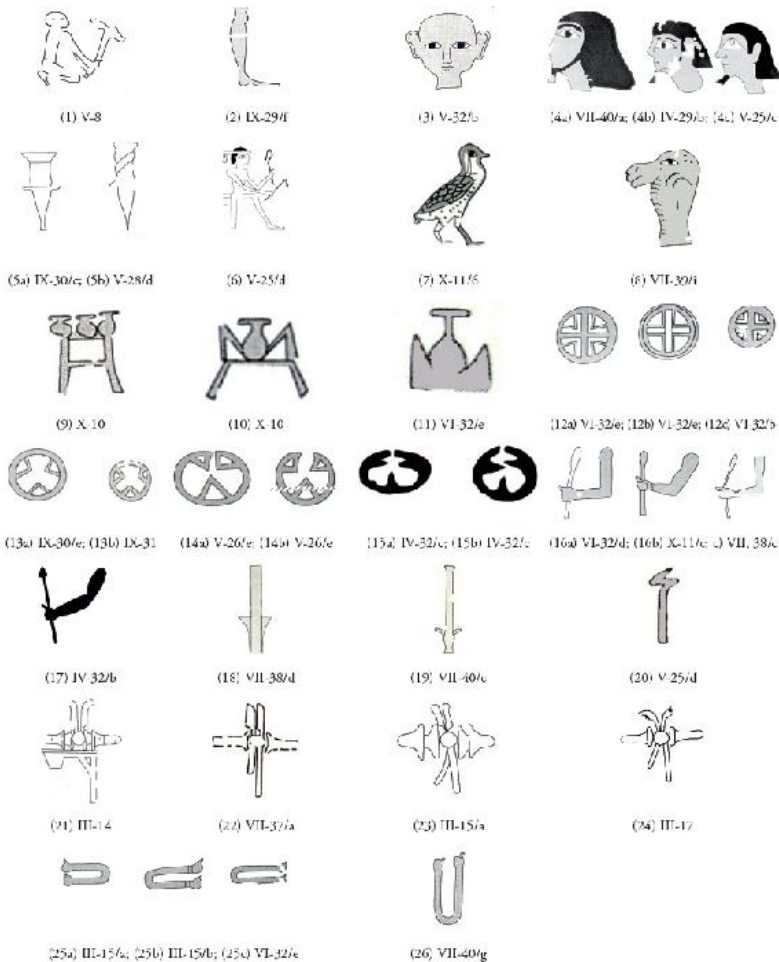


Fig. 2: Examples of Akhmim hieroglyphs. All references are to figures in Kanawati, El-Hawawish. Lower case Roman letters refer to any subsection of that figure number as it occurs on that page. Thus VI-32/e refers to vol. VI, Fig. 32, subsection ‘e’

Despite the accidental damage in these examples, one can still see that, while they also display originality and mastery of line, the artist has varied the wigs and each sign differs between the three examples selected.

The two chisels in Fig. 2.5,²¹ most elegantly and skilfully drawn, stand for the *mr*-sign (𓄿) and come from two different tombs. Unlike most chisel hieroglyphs in other texts, they have been given realistic details and show mastery of line and form: they seem to have been modelled on actual tools.

Originality

Originality is also a basic requirement we expect from an artist and we can see in the following examples that this characteristic is also present from time to time. In each of these instances the artist has taken a common form and given it an original twist that one is unlikely to find elsewhere.

The seated person hieroglyph () in a title for a nomarch was in a single instance converted into a ruler icon²² and it is also a new sign (Fig. 2.6). In all likelihood, it was probably meant to depict the Great Overlord of the Province, Senem-nehwet (the actual governor of the nome of Akhmim), upon whose coffin this sign appears. Here the artist has either flattered his patron by giving the determinative the symbols (the *heqa* staff and the flail of a king, together with a diadem) that such a governor should not by rights possess, or else, he has given a visual rendering of the actual items this governor may have used. Such a depiction is something that we could expect from the First Intermediate Period, rather than the Old Kingdom, of course, and this is of some assistance when trying to date the object on which such signs appear.

The third example is the common quail chick hieroglyph , but this little chick has been given feathers and is no more a pink and blue little bird struggling to survive (Fig. 2.7). In this particular instance, the chick has a knowing eye and a substantial covering of feathers – something that scribes from other places have never even thought of doing – and the whimsical thought is that he would not be so defenceless and vulnerable in the world of the Afterlife for which he was intended.

Invention and ingenuity

Particularly skilled or intelligent artists possess the ability to invent completely new versions of known objects and often they display ingenuity in doing so – perhaps the quail chick just mentioned can be considered such an example. We have a number of Akhmim hieroglyphs displaying these qualities, the most extraordinary representative of which must surely be the next example.²³

There is no recognisable hieroglyph parallel to the literally fantastic sign in Fig. 2.8, which was used among official titles for a man named Seni. Moreover, not one Egyptologist I asked was able to correctly identify the hieroglyph represented: one could only unravel the meaning by referring to the text in which this sign appears, on the coffin of the Overseer of Fields and Apportionments. Upon discovering this sign, Percy Newberry interpreted it as the head of a hippopotamus () and claimed that it was a title for the highest ranking member among the priesthood of the Stolist of Min.²⁴ This was an ingenious explanation, but it was not correct, although

Newberry had come very close to the essence of the hieroglyph.

When the sign is correctly interpreted (it represents the forepart of a lion  and is part of the title *ḥrty-ꜥ*) one could see what had been in the artist's mind at the time of its composition. He had combined the signs of hippopotamus and crocodile to imply tremendous force and strength. The implication was either, that Seni possessed such impressive qualities, or, that the use of this sign would confer such strength upon the coffin owner in the Afterlife, enabling him to stand out among his fellow *ḥrty-ꜥ* officials. This hieroglyph surely had magical intentions. One might also add that, by this time, the Akhmim artist was probably unaware of the true nature of a lion and preferred to paint a creature made up of the most powerful creatures he knew, the crocodile and the hippopotamus.

The depiction of offering tables and stands on tomb walls and in signs painted on coffins was also a fertile field for the Akhmim artist. The standard sign  was nearly always replaced with something more exotic, such as Fig. 2.9–11. The imagination of the Akhmim artist seems to have been boundless in these instances. But there is also a realism in this: the items expressed what he actually saw – as we know from both tomb paintings and actual objects²⁵ discovered in tombs of this period. The first offering table of the above examples shows a wooden stand with three jars upon it. The item in the second has only one jar and probably two cone-shaped bread loaves or cakes on its table, whilst the third hieroglyph features the same type of jar as the other examples, with two conical loaves crammed in on either side. In these hieroglyphs the artist is showing his creativity and originality – basic elements in an artist's skill.

From the earliest dynasties until the latest periods of Egyptian writing, the standard determinative (or signifier) for a town, village or city  changed little.²⁶ It is thought that this sign represented a circular walled communal site with two intersecting main streets forming an ×, rather than a + sign in the centre of the circle. The town signs from Akhmim most frequently take that form, but, on one coffin²⁷ the signs take the + form for the streets (Fig. 2.12). Painters of other coffins took even greater liberties with this sign and we see such variations as Fig. 2.13, a town with three streets intersecting at what might be an Egyptian *midan*. This then received more inventive treatment in Fig. 2.14, a town with a more realistic enclosure wall that has a dip in one side (presumably, where the gate of the town could be found). This model in turn developed into an even more inventive example (Fig. 2.15).

With economy of line, this later version gives a more impressionistic version of a walled Egyptian town which conveys (deliberately or not) a plan view of the haphazard nature of towns which one can find anywhere. These signs are examples of originality and skill, and one should not miss the deliberate opening left in the wall to suggest a gate: once again, evidence of

the artist's observation. The Akhmim artists were not the only ones to use this shorthand sign, however: at Dendera, similar depictions of this last form of sign can be found. The question is: which area developed this idea first?

As recorders of their times

We also expect artists to be recorders of their times, and so it is with the Akhmim painters. In the figures showing the  hieroglyph (see above) there is a series of witty depictions of a man's profile with variations in the length of his wig and variations on the beard that senior officials customarily wore (if we are to take the engravings and paintings in Egyptian monumental art at face value). Atypically, however, the strap to the beard is only depicted on the faces of officials during the First Intermediate Period and the Middle Kingdom – see, for example, the cartonnage masks from Sedment and other First Intermediate Period sites. Perhaps this fashion was an attempt to make the beards of the officials similar to the false beards worn by the king, for the local nomarchs of many provinces took upon themselves the responsibility for the protection of their regions at this time and – perhaps to bolster their authority – they usurped elements of royal privilege, as we saw with the ruler determinative, and as we see with this strap to the beard. The examples from Akhmim, therefore, are very early records of a fashion of these times, and once again, such a detail can provide a chronological clue for dating the art in which it appears.

From the hieroglyphs of the late Old Kingdom/early First Intermediate Period perhaps come indications of the warlike times that are encountered in monumental inscriptions (Ankhtyfy of Mo'alla, Nefer-yu from the Denderah region, Indy from the Thinite nome,²⁸ and others²⁹). Following are three separate examples of Gardiner's D45 hieroglyph, but these (and others from Akhmim) have replaced the  sceptre with an Egyptian war club (Fig. 2.16) or even a spear (Fig. 2.17).

This last adaptation is particularly intriguing and perhaps reveals how the daily life of the Akhmim artists injected itself into the work that they produced. In nearby Assiut, where the painted hieroglyphs on local coffins were profuse, however, there are no weapon-replacements such as these for this hieroglyph on the coffins being made in the same period.³⁰ This again adds emphasis to the originality of the painters from Akhmim.

Having thus demonstrated that these skilful technicians do deserve the label of 'artist', I now would like to highlight some of the more subtle aspects of their art.

Evolution of signs

There are a handful of examples which demonstrate the evolution of some signs: in an article published elsewhere³¹ I explored the evolutionary process in the writing of Hathor's name, but the process is noticeable for other signs, too. The example I wish to show here is for the arrow sign (: Fig. 2.18–20). The first departs from the norm in showing the shaft of the arrow throughout its length. The barb has the appearance of an arrow with flint inserts – which was one of the main techniques of making these weapons. The second example produces a type of arrow known from other art forms, with a squared apex that flares out at its impact edge, but the third example is not like an arrow at all, and has become another new sign. The arrow seems to have been reversed, with its sharp end at the top, but the manner of writing the sign shows hasty brushwork, not the carefully drawn examples shown previously. This sign has been taken from hieratic writing of the tenth to eleventh Dynasty: there is an exact parallel from the graffiti at the Hatnub quarries.³² This example illustrates one of the features of the Akhmim repertoire, which is the occasional inclusion of hieratic signs among the hieroglyphic texts – both on the coffins and on the tomb walls.

Just one more indication of the way in which the Akhmim artists played with their signs are these inventive examples for the emblem of the nome of Akhmim (Fig. 2.21–24). All of these are very different variants of  (Gardiner R23). The first is a standard sign for the nome (also used by an Akhmim artist). In the second example, the ostrich feathers have been replaced with reed feathers – perhaps because, as a flax-growing region, the Akhmim landscape featured marshes where reeds proliferate. Sign R23 here is less elaborate and shows two objects like gaming pieces flanking the central circular sign. In the third example, there are two sets of gaming pieces on each side flanking the central circle. The ostrich feathers are used for the emblem's feathers, but they have a less rigid form than either the first or the second example, and one curves appreciably to the left. In the fourth example, the gaming pieces are reduced to one set, but there are feathery reeds shown gracefully decorating the nome emblem. These are very creative ways of playing with a most important religious sign for the nome to give a different interpretation to the meaning of the sign.

These hieroglyphs selected above are not the only ones to display an evolution from one idea to another and, as we shall see, there was clearly a purpose to most of these sign developments. Some of them substitute one idea for another, although at first glance we may not perceive just exactly what lies behind those changes, but the end result is that the artist has either used an example of word play or made a visual pun.

Substitution, or visual puns

There are many examples of substitution, or visual puns in the Akhmim

hieroglyphs: some of them offer very subtle differences; other changes can be quite radical, whilst others can only be described not as conversions but as new hieroglyphic signs.³³

Egyptologists know that Egyptian hieroglyphs did not just form an alphabetic list or series of signs that combined to make up a word: the phonemes and ideograms that contributed to the Egyptian script were also symbols that carried a reminder of the link between the physical and the religious world view of those ancient people. This is even more pertinent when those signs appear in religious contexts – and nearly all the hieroglyphs mentioned in this review have been taken from religious contexts. The Akhmim artists took the symbolic nature of their work very seriously and their skills sometimes took an unusual turn as they practised their art.

In this next hieroglyphic group the examples come from painted coffins and represent Gardiner's V13 hieroglyph () , the rope hobble. Each of these signs comes from an Akhmim coffin and show a pair of arms extended, with the hand shown as a fist, its thumb uppermost. Each of these signs was written as part of the name of the owner of the coffin, and the use of human arms may very well have been used in the coffin inscription to stress this physical link between the phoneme in the name and the identity of the owner of each of these three coffins. It is crucial to recognise that this pun is only used in writing certain human names: for two men called Tjeti, and also for a woman named Nefertjetet. They probably lived around the same time as each other and although the signs appear on different coffins, they were possibly painted by the same artist.

In the above examples (Fig. 2.25), the artist has moved away from the basic rope sign , changed the colour of the sign from yellow to red-brown, and converted the loops of the hobble into two fists with their thumbs uppermost. Why has the artist changed this sign like this? What particular message was he trying to express? The special significance of this altered hieroglyph on these coffins is that, if this sign is rotated 90° it reveals another meaning (Fig. 2.26).³⁴

The hobble sign is no longer a rope restraint for an animal: it has become a *ka* sign, a symbol of the identity of the coffin's occupant. Nothing could be more appropriate for a name written on the coffin of that tomb owner: the element of tying up or restraint has been removed from the proximity of the dead person in the Afterlife and the physical and religious worlds have become united in this graphic exchange. It is not necessary to point out the fact that the essence of the name in ancient Egypt was a sacred element of a person's identity which lived beyond death. Well beyond the Late Period, the Egyptians believed the name to be a magical force and here that force has become stronger by its expressed unity with its *ka*, even to the extent that the last restraining element (the hobble) has been banished from the area of the

coffin.

One scholar has said that ‘Puns are coincidences... [they] illuminate the nature of language in general.... [and] appeal to those who take risks.’³⁵ But puns also enrich any statement in which they are made, and often bring with them an ambiguity which sometimes may not be immediately grasped. This has a special appeal for the initiated and, where religion was concerned in ancient Egypt, this special knowledge conferred a secrecy that was a characteristic of the priestly class.

There is no mistaking the nature of the change made in this example, nor the anthropomorphic aspect of the clenched fist. The gesture is one that is familiar to us today as ‘giving the thumbs up sign’ to express the idea that something is good, but in Egyptian hieroglyphs the fist was *bꜥꜥ*, ‘to grip, seize’, or ‘make a fist, control’, and so on. The fist denotes the power to do things, to seize control. Thus, instead of the usual open hands that are typical of *ka* signs, in these examples the fists take on the probable meaning of the *ka* being in control of the situation for the deceased in the Afterlife. And I repeat here something I mentioned earlier: this transformation is never used in any instance other than in writing the name of certain coffin owners.

The ingenuity and sophistication of these artists is breath-taking, for they were not just rendering a funerary formula or list of titles, but were weaving around the hieroglyphs a magical message. Yvan Koenig³⁶ has written at length on this sacred philology, which was a system used by ancient Egyptians to reveal or to explain the many layers existing in the world in which they lived. Whilst we are aware of such practices during the later stages of Egyptian history, these and other examples from Akhmim reveal that there were artists in the First Intermediate Period who were very obviously doing the same thing – and with no less sophistication – more than one thousand years earlier than the writer of Koenig’s papyrus.

It is thus evident that the Akhmim painters were not content just to imitate the traditional signs, but to develop their own versions of Egyptian hieroglyphs. In doing so, they have revealed to others (in their world, as well as in ours) the essential nature of things as they understood them. Their new ideas and methods were the subject of experiment, and this element of risky innovation was far more characteristic of these artists than of others working in Middle Egypt at this time. However, in the process of creating their original designs, they expressed themselves as *bona fide* artists. That they were able to do this when there was so much uncertainty and sporadic but evident warfare in other nomes at this time was possibly due to the economic wealth and stability that existed then in the nome of Akhmim.

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Czech Institute of Egyptology in Prague for this invitation and for their hospitality

² Most of those known are housed today in the Cairo Museum.

³ D. Meeks, 'La Paléographie hiéroglyphique. Une discipline nouvelle', *Egypte, Afrique & Orient* 46 (2007), 3–14.

⁴ N. Kanawati et al., *The Rock Tombs of El-Hawawish. The Cemetery of Akhmim*, Vols I–X, (Sydney 1980–1992).

⁵ The tomb reports by N. Kanawati and his team (*The Rock Tombs of El-Hawawish* I–X) provide examples covering this range, although the series is not designed chronologically.

⁶ E. Brovarski, 'Akhmim in the Old Kingdom and First Intermediate Period' in Posener-Kriéger (ed.) *Mélanges Gamal Eddin Mokhtar* (BdE 97; Cairo 1985), I, 117–153. Brovarski's article puts particular emphasis on the stelae, rather than the coffins or the tombs, since the last-mentioned items were only partially published at the time he wrote his article.

⁷ P. D. Manuelian, (*Slab Stelae of the Giza Necropolis* (Yale Expedition to Egypt No.7; New Haven and Philadelphia 2003), 37) has demonstrated that some of the carving and painting on Giza stelae was not uniformly applied on all signs, but that some sections were painted and not carved, whilst the artist also deviated on occasions from the outlines provided by the artisan carver. The same situation is found in the Akhmim tombs and stelae, but it is also noticeable in other carved and painted tombs within the Memphite cemetery and elsewhere. Frequently, the carvers of signs displayed a higher standard of execution than did the painters, although, on occasions, the reverse situation applies.

⁸ Brovarski, in Posener-Kriéger (ed.) *Mélanges Mokhtar* I, 137. It is quite possible that at least some of the coffins did not come from the same area as the Akhmim tombs recorded by Kanawati, but from the region of Naga al Diabat, which is Kuhlmann's Cemetery A, a site that faces the cemetery of el-Hawawish – see Y. El Masry, 'Recent Explorations in the Ninth Nome of Upper Egypt', in Z. Hawass and L. Pinch Brock (eds), *Egyptology at the Dawn of the Twenty-first Century. Proceedings of the Eighth International Congress of Egyptologists, Cairo, 2000* (3 vols, Cairo & New York, 2003) I, 335.

⁹ H. G. Fischer's work on the inscriptions of Dendera (*Dendera in the Third Millennium B.C. down to the Theban Domination of Upper Egypt* (Locust Valley, New York, 1968)) and the Coptite nome (H. G. Fischer, *Inscriptions from the Coptite nome. Dynasties VI–XI* (Analecta Orientalia 40; Rome 1964)) and E. Brovarski's work that analysed the inscriptions from Naga ed Dêr (*Inscribed Material of the First Intermediate Period from Naga-ed-Der* (UMI dissertation series; Chicago 1980)) will already be familiar.

¹⁰ One writes 'his' as the records show only males engaged in creating

texts, but it is always possible that occasional females – especially in centres far removed from major towns – may have been artists as well. To avoid inelegant phrasing, however, I will simply use the male terms and hope that readers will remember this caveat.

¹¹ Brovarski, in Posener-Kriéger (ed.) *Mélanges Mokhtar I*, 118.

¹² K. P. Kuhlmann, *Materialien zur Archäologie und Geschichte des Raumes von Akhmim* (SDAIK 11; Mainz am Rhein 1978), 5.

¹³ P. Lacau (*Sur le système hiéroglyphique* (BdE 25; Cairo 1954), 14) discusses how one artist will conform to traditional colours whilst another will seek to relieve the monotony of tradition or form and revert to some other way of portraying things: this set of circumstances is particularly pertinent to the work of the Akhmim painters.

¹⁴ E.g. Fischer (*Dendera in the Third Millennium B.C.*, 80) examines the town determinatives and the enclosure sign; on p. 86 he mentions the addition of a beard to ♂, which is also noticeable at Akhmim on occasions, and there are identical signs for Anubis on his platform – just to mention some similarities. Y. El-Masry, in ‘Rock Tombs from the late Old Kingdom in the 9th Nome of Upper Egypt’, *SAK* 36 (2007), 189–215, also mentions similarities from the White Monastery area that display similar signs to those from Akhmim on the coffins he found in the cliffs there (see especially pl. 8).

¹⁵ E. Brovarski, ‘The Late Old Kingdom at South Saqqara’ in L. Pantalacci & C. Berger-El-Naggar (eds), *Des Neférkare aux Montouhotep* (TMO 40; Lyon 2003), 58–61.

¹⁶ Kanawati, *El-Hawawish* VI, Fig. 32e.

¹⁷ Kanawati, *El-Hawawish* V Fig. 8. That the figure extends the gazelle head towards the dancers on the same wall suggests that the protection is to be given in the face of Hathor's presence, for she is not only a goddess of music and dance, but she has a fierce aspect that needs to be pacified if she is to be present during any rite.

¹⁸ Kanawati, *El-Hawawish* IX, Fig. 29f. Despite a similarity to Gardiner's D56, the sign represents D58. At Akhmim the artists who painted the coffins frequently used the longer version of the leg to represent the phoneme *b*.

¹⁹ Kanawati, *El-Hawawish* VI, Fig. 32b.

²⁰ Kanawati, *El-Hawawish* VII, Fig. 40a; id., *El-Hawawish* IV, Fig. 29c; id., *El-Hawawish* V, Fig. 25c.

²¹ Examples are redrawn from Kanawati, *El-Hawawish* IX-Fig. 30c; *idem.*, *El-Hawawish* V-Fig. 28d respectively.

²² Kanawati, *El-Hawawish* V, Fig. 25d.

²³ Taken from Kanawati, *El-Hawawish* VII, pl.16b, the coffer of Seni.

²⁴ P. Newberry, *LAAA* 4 (1912), 99–101.

²⁵ The offering table of Seni, from Akhmim (Kanawati, *El-Hawawish* VII,

pl.13; Fig. 39) is such an elaborate object.

²⁶ See note 14 above.

²⁷ Kanawati, *El-Hawawish VI*, Figs 32c, e, and b respectively

²⁸ Respectively: J. Vandier, *Mo'alla. La Tombe d'Ankhtifi et la Tombe de Sebekhotep* (BdE 18, Cairo (1950); W. C. Hayes, *The Scepter of Egypt* (New York 1954), I, 139 and fig. 82; *ibid*, 139, 141 and fig. 83.

²⁹ R. O. Faulkner, 'The rebellion in the Hare nome', *JEA* 30 (1944), 61–63.

³⁰ See, for example, S9Mi and S1Tan in R. Hannig, *Zur Palägraphie der Särge aus Assiut* (HÄB 47; Hildesheim 2006), 116.

³¹ V. G. Callender, 'Writings of the word *Hathor* from Akhmim', in A. Woods, A. Mcfarlane and S. Binder (eds), *Egyptian Culture and Society: Studies in Honour of Naguib Kanawati* (CASA 38; Cairo 2010), 87–95.

³² G. Möller, *Hieratische Palägraphie, Die Aegyptische Buchschrift in ihrer Entwicklung von den fünften Dynastie bis zur Römischen Kaiserzeit I* (Leipzig 1909), pl.57 (596).

³³ The writing of one other example given during the OKAA conference will be discussed elsewhere; this example featured a peculiar use of the phoneme *h* □, as in the epithet for Hathor, *nbt nht*, 'lady of the sycamore'. See the discussion in Callender, in Woods et al. (eds) *Egyptian Culture and Society*, 91–92.

³⁴ For further discussion on graphic transference, see Y. Koenig, in. 'Le papyrus de Moutemheb', *BIFAO* 107 (2007), 291–321.

³⁵ W. Redfern, *Puns* (Oxford 1984), 9.

³⁶ Koenig, *BIFAO* 107 (2007), 291–321, especially 317.

Two cemeteries for one provincial capital? Deir el-Bersha and el-Sheikh Said in the fifteenth Upper Egyptian nome during the Old Kingdom

Marleen De Meyer

During the Old Kingdom, the phenomenon of two cemeteries serving one provincial capital is attested a number of times throughout Egypt.¹ This is the case for the Third Upper Egyptian Nome (el-Kab and Hierakonpolis), the Ninth Upper Egyptian Nome (el-Hawawish and Hagarsa), and the Sixteenth Upper Egyptian Nome (Tihna el-Gebel and Zawyet el-Maiyitin).² Moreno Garcia has demonstrated that in these necropoleis different sections of the elite were buried that had control over different sectors of the provincial administration.³ On the one hand, there were the high officials who were involved with the cult of the provincial deity (Nekhet for el-Kab, Min for el-Hawawish, and Hathor for Tihna el-Gebel), while on the other hand there were administrators who were more closely connected to the central government and who would look after the interests of the crown in the province. These two groups of the elite would thus draw their status from two separate spheres of influence.

In the Fifteenth Upper Egyptian Nome a similar situation may exist. Near the provincial capital el-Ashmunein⁴ two necropoleis are preserved that contain elite Old Kingdom tombs, namely Deir el-Bersha and el-Sheikh Said. The latter is located some five kilometres to the south of Deir el-Bersha. The Old Kingdom tombs at el-Sheikh Said have long ago been published by Davies,⁵ but the presence of Old Kingdom tombs at Deir el-Bersha is less generally known.⁶ The majority of these rock tombs are

undecorated and uninscribed. However, a handful of them do contain traces of inscriptions, which provide the names and title strings of their owners.⁷

Table 1: Titles of tomb owners at Deir el-Bersha

	Ia-Ib	Ny-Ankh-Nemty	An Ankhwy	Iut A	Uley	Schekhtep
<i>hry-pr</i>						
<i>hry</i>						
<i>hry nswt</i>						
<i>hry nswt-hry</i>						
<i>hry-hb</i>						
<i>hry idw nswt</i>						
<i>hry hwt</i>						
<i>hry hwt r4</i>						
<i>hry nswt</i>						
<i>hry tp nswt</i>						
<i>hry tp nswt pr-ty</i>						
<i>st nswt</i>						

Before addressing the question of why there are two necropoleis, the chronological development of the sites needs to be clarified in order to understand whether they were in use contemporarily or not. At Deir el-Bersha the earliest known funerary remains that are so far identified date to the third dynasty. They are simple burials located low on the slopes of the north and south hill. A circular structure of limestone boulders frequently marks the burial, which is located low in the ground in the middle of the circle. The body is either placed inside a pottery vessel, a wooden box, or has no container at all.⁸ A survey of the foothills has shown that this is an extensive cemetery that continues almost until Deir Abu Hinnis in the north.

At Deir el-Bersha there is then a gap in the archaeological record. So far no funerary remains from the fourth dynasty have been identified. However, since rock tombs in general only really start to appear in the provinces from the fifth dynasty onwards, this is not too remarkable.⁹ During the fifth dynasty, evidence of burial activity is clearly attested on the north hill of Deir el-Bersha. On the façade of the tomb of Ia-Ib a royal decree dating to the reign of pharaoh Neferefre is preserved.¹⁰ In this decree the king bestows a set of new and higher titles upon Ia-Ib.¹¹ The tomb chapel itself is largely destroyed due to later limestone quarrying, but negative traces on the ceiling show that the plan was similar to that of fifth dynasty elite tombs at nearby el-Sheikh Said. A second tomb on the north hill can likewise be ascribed to the fifth dynasty based on iconographic and textual information. This is the tomb of Ny-Ankh-Nemty and his wife, Ny-Ankh-Hathor, a small tomb located far to the north of the central cluster of tombs and largely destroyed due to habitation by Copts.

Table 2: Titles of sons of tomb owners at Deir el-Bersha, known from inscriptions in their father's tomb

	Mery-Ib (son of An-Ankhy)	Chenemu (son of An-Ankhy)	Imi B (son of Imi A)	Imi C (son of Imi A)	Son of Sobekhotept
<i>hry-hb</i>					
<i>hq: hwt</i>					
<i>smhr wꜥ-ty</i>					
<i>hry tp nsw-t</i>					
<i>hry tp nsw-t pr-ꜥ</i>					
<i>šꜥ ꜥ nsw-t</i>					

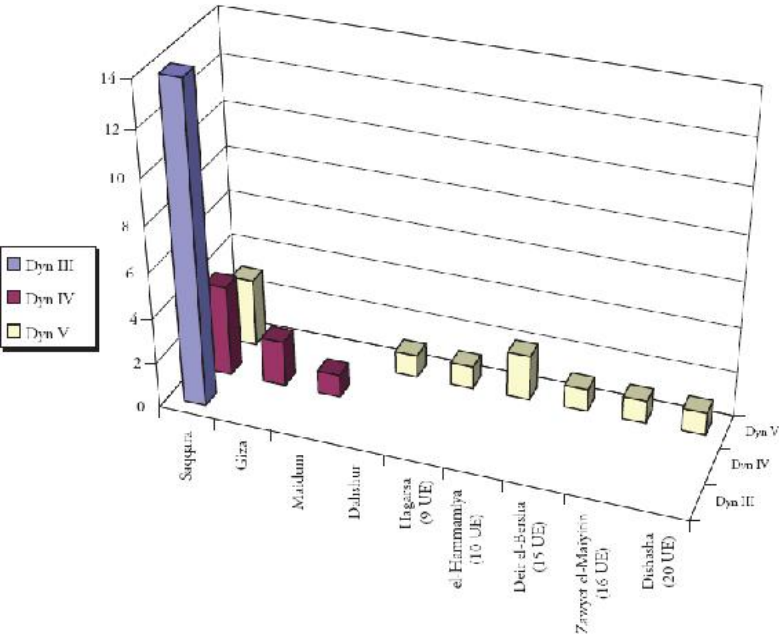


Fig. 1: Geographical distribution of the *hq:w hwt ꜥ:t* in Egypt during the Old Kingdom (based on the list compiled in Moreno Garcia, ZÄS 125 (1998), 53–55 [addendum])

During the sixth dynasty, focus seems to shift to the south hill at Deir el-Bersha. Here a large cemetery of small undecorated rock tombs is preserved, with a few sizable and decorated tombs that stand out, such as the tombs of An-Ankhy, Uky, and Imi.¹² Archaeological and inscriptional data indicates that these tombs date to the sixth dynasty, and their use seems to continue into the First Intermediate Period.¹³

The title strings that are preserved in the tombs mentioned above offer an idea of the kind of people that were buried in them (Table 1 and Table 2). The title strings of the two fifth dynasty administrators that are buried on the north hill (Ia-Ib and Ny-Ankh-Nemty) differ greatly from those of the other persons buried at the site. Ia-Ib bears the titles *hry-pꜥ-t* ‘Prince’, *hꜥ-ty-ꜥ* ‘Mayor,’ and *hꜥm-ty-bi-ty* ‘Sealer of the King of Lower Egypt,’ which form

three of the four highest rank titles in the Old Kingdom. The fourth one, *smhꜣr*¹⁴ *wꜥ-ty* ‘Sole Courtier,’ could well have been present in the lacuna below *hꜣtm-ty-bi-ty*. Although in the late Old Kingdom and the First Intermediate Period these rank titles become popularised and are given to a wide range of administrators,¹⁵ this was not yet the case during the fifth dynasty and the presence of these rank titles indicates that Ia-Ib belonged to the high elite of his day. Also the fact that in the decree this set of titles is given to Ia-Ib by the king shows their significance. However, he was not a governor.

Another title carried by Ia-Ib is *hꜣrp ns-ty* ‘Controller of the Two Thrones’, which is usually portrayed as being a priestly title that shows involvement in the temple cult of Thoth at el-Ashmunein during the Middle Kingdom. However, during the Old Kingdom the title had purely administrative connotations, and the function connected to it seems to have been one of ‘chamberlain.’¹⁶ While it is true that during the Middle Kingdom this title was transferred to several nomarchs of the Hare Nome who were high priests of the temple of Thoth, there is no clear indication that even at this time the title *hꜣrp ns-ty* in itself had any religious connotation.¹⁷

The second fifth dynasty administrator buried at Deir el-Bersha, Ny-Ankh-Nemty, has a short title string consisting only of *hꜣtm-ty-bi-ty* ‘Sealer of the King of Lower Egypt’ and *hꜣqꜣ hꜣw-t ꜥꜣt* ‘Ruler of the Great Estate.’¹⁸ Nevertheless it is very informative since he is the only person in the Hare Nome to hold the title *hꜣqꜣ hꜣw-t ꜥꜣt*. This title is first encountered during the third dynasty in the inscriptions on vessels that were found in Djoser’s pyramid at Saqqara.¹⁹ During the early Old Kingdom (third–fourth dynasties), the title *hꜣqꜣ hꜣw-t ꜥꜣt* was held by only the highest officials such as Metjen and Pehernefer,²⁰ and it is encountered at Giza and Saqqara, as well as once at Maidum (see Fig. 1).²¹ Only in the fifth dynasty does it spread down to the provinces (Hagarsa [9th Upper Egyptian nome], Hammamiya [10th Upper Egyptian nome], Zawyet el-Maiyitin [16th Upper Egyptian nome], Deshasha [20th Upper Egyptian nome], and now Deir el-Bersha [15th Upper Egyptian nome]). At the end of the fifth dynasty the title dies out, and during the sixth dynasty only *hꜣqꜣ-w hꜣw-t* are attested.²²

Fig. 1 clearly shows the shift of the title *hꜣqꜣ hꜣw-t ꜥꜣt* from the capital in the early Old Kingdom towards the provinces in the fifth dynasty. Although some *hꜣqꜣ hꜣw-t ꜥꜣt* are also provincial governors, this is not always the case, and having nomarchal titles is not a prerequisite for carrying the title *hꜣqꜣ hꜣw-t ꜥꜣt*.²³ This holds true as well for Ny-Ankh-Nemty, who does not have nomarchal titles. Nevertheless his position in the Hare Nome must have been influential, since a *hꜣw-t ꜥꜣt* in the provinces seems to have been an administrative centre that controlled several production units such as agricultural lands, cattle, and labourers, within a certain territory.²⁴

During the sixth dynasty, the title strings of the people buried at Deir el-

Bersha become far less impressive. The title *ḥqꜣ ḥw-t ʿ3-t* ‘Ruler of the Estate’ is carried by several individuals, namely An-Ankhy and Imi A, B, and C.²⁵ The fact that three members of the Imi family carry the same title may indicate that it was a hereditary position. At other sites clusters of *ḥqꜣ ḥw-t ʿ3-t* within one family have been observed as well, such as at Deir el-Gabrawi.²⁶

An-Ankhy has the most elaborate title string and the most extensively decorated Old Kingdom tomb at Deir el-Bersha. He carries the titles *ḥqꜣ ḥw-t*, *ḥtm-ty bꜣ-ty*, *smḥr wꜣ-ty*, *ḥry-ḥb-t*, and *ḥry-tp nsw-t*. During the Old Kingdom *ḥry-tp nsw-t* ‘Royal Chamberlain’ was a rather low ranking title.²⁷ At Deir el-Bersha this title is held by An-Ankhy, Imi C, the son of Sobekhotep, and possibly Uky. A variant of the title, *ḥry-tp nsw-t pr ʿ3*, is found for Imi A and B. The fact that three members of one family held this title may suggest that this too was a hereditary position. The persons holding the office of *ḥry-tp nsw-t* do not have many other titles, confirming that it was a rather low ranking title.²⁸

Although only a few titles are preserved for Old Kingdom officials at Deir el-Bersha, a pattern nevertheless emerges. All the administrators seem to have had a link with the royal court. Ny-Ankh-Nemty was the overseer of an institution supervising royal domains, Ia-Ib received the privilege of a royal decree on the façade of his tomb, and in this decree he was bestowed with a set of higher titles by the king himself. During the sixth dynasty a number of overseers of royal domains were buried at the site. This is the only function title they carry, while their other titles are rank titles. Their main task therefore seems to have been to control the interest of the crown in the Hare Nome. Remarkably none of the officials carry any priestly titles involving them with the local cult of Thoth.

Let us now compare the situation at Deir el-Bersha with that at el-Sheikh Said.²⁹ This necropolis is also composed of a large number of small, undecorated tombs, with a handful of larger decorated ones. The earliest known tombs here date to the fifth dynasty and belong to Serfka³⁰ and his son, Werirni.³¹ Based on the title strings in their tombs, they are dated to the late fifth dynasty, between the reigns of Djedkare Isesi and Unas,³² thus slightly younger than the tomb of Ia-Ib at Deir el-Bersha that is firmly dated to the reign of Neferefre. Both Serfka and Werirni carry the title *šꜣm bꜣ* ‘Leader of the Land,’ which is often interpreted as a title indicating the rank of provincial governor (Table 3).³³ However, as there is no clear indication that during the fifth dynasty the institution of ‘nomarch’ actually existed, this title should rather be taken as one of several identifying a person as the highest in rank of a regional territory, but not necessarily as a ‘nomarch’.³⁴ Only the title *ḥry-tp ʿ3 n [spꜣ-t]* ‘Great Chief of [a nome]’ can be taken as truly indicating a nomarch, as it clearly states that this person is the only and highest leader in a given nome.³⁵ This title starts to appear in the sixth dynasty and is, at el-Sheikh Said, only borne by Uiu.³⁶ His son, Meru/

Bebi,³⁷ is not designated as a *ḥrj-tp ʿ3 n wnt*, nor is a third sixth dynasty high official, named Teti-Ankh/Imhotep. The latter is likewise buried in an elaborately decorated tomb, but his relation to the previous sixth dynasty officials is not clear.³⁸ It seems evident, however, that he should chronologically be placed before Uiu and Meru/Bebi.

Table 3: Titles of tomb owners at el-Sheikh Said

	Serfla	Werirni	Uiu	Meru/Bebi	Teti-Ankh/ Imhotep
<i>irj-pt</i>					
<i>ḥrj-ʿ</i>					
<i>ḥrp n-ty</i>					
<i>ḥm-ty-bitj</i>					
<i>ḥrj-ḥbt</i>					
<i>ḥrj-ḥbt ḥrj-tp</i>					
<i>ḥqj ḥw-t</i>					
<i>ḥqj ḥw-t ppj</i>					
<i>ḥqj ḥw-t tti (?)</i>					
<i>smbr w-ty</i>					
<i>ḥrj-tp nswt</i>					
<i>ḥrj-tp nswt pr-ʿ3</i>					
<i>imj-r wpt</i>					
<i>imj-r nsw-wt nsw-wt</i>					
<i>sb imj-r snw</i>					
<i>imj-r smʿw</i>					
<i>imj-r spw-wt ḥrjw-wt-ib smʿw</i>					
<i>ḥrj-tp ʿ3 (n) wnt</i>					
<i>sm t3</i>					
<i>sm t3 wnt</i>					
<i>mdw rhyt</i>					
<i>sb ʿd-mr</i>					
<i>twa kmwt</i>					
<i>ḥm-nir ḥwfw</i>					
<i>ḥm-nir wsr-k3=f</i>					
<i>ḥm-nir ḥwt n-j-wr-r</i>					
<i>wʿb nswt</i>					
<i>ḥrp snwt nb-t</i>					
<i>sm</i>					
<i>mdj dp-t</i>					
<i>iri-ḥt-nswt</i>					
<i>imj-r ḥw-an</i>					
<i>ḥm nir ḥt-ḥr nb-t nb-t</i>					

Table 3 gives an overview of the titles of the tomb owners at el-Sheikh Said. One glance at this list immediately conveys that a far greater number and variation in titles was carried by the persons buried there, in comparison to those buried at Deir el-Bersha. The two fifth dynasty administrators, Serfka and Werirni, both held the highest offices in the Hare Nome (Table 3), and their influence seems to have stretched even beyond the borders of their own territory. This is indicated by one of the titles that Serfka carries: *imj-r sp3-wt ḥrjw-wt-ib smʿw* ‘Overseer of the Middle Nomes of Upper Egypt.’³⁹ At this time, the central government of Egypt concentrated on exploiting and making accessible the natural resources that were available in Middle Egypt.⁴⁰ This activity is also reflected in the title

im-y-r ntw-wt m3-wt ‘Overseer of the New Towns’ which is carried by both Serfka and Werirni. Although this title has in the past been interpreted as evidence for urban development in Middle Egypt during the fifth dynasty, Moreno Garcia has shown that the term *ntw-t* should here not be taken literally as ‘town,’ but rather that it designates an agricultural development with the purpose of producing provisions that could be used by royal envoys or expeditions.⁴¹ The Hare Nome occupied a particularly strategic position in this regard, with the quarries of Hatnub nearby, as well as the departure for the desert road to the Bahriya oasis.⁴²

Both Serfka and Werirni held priestly titles relating to the royal mortuary cult. Serfka was a *hm-ntr hww* ‘Priest of Khufu’ and a *hm-ntr wsr-k3=f* ‘Priest of Userkaf,’ while Werirni was a *hm-ntr hwt n-y-wsr-r* ‘Priest of the Domain of Niuserra’ and a *hm-ntr hwt n-y-wsr-r* ‘Royal w^fb-priest.’⁴³ Remarkably though, none of the high officials buried at el-Sheikh Said carry any priestly titles that are related to the local temple cult of Thoth at el-Ashmunein, but only priestly titles involving them with the royal mortuary cult.

At the end of the fifth dynasty a change in the administration of Middle Egypt seems to have taken place. Fischer has noted that in the ‘Middle Nomes’ the titles that were employed during the fourth and fifth dynasty almost all completely vanished during the sixth dynasty, at which time they were replaced by new ones.⁴⁴ This phenomenon can clearly be observed for the people buried at el-Sheikh Said. An example is the title *im-y-r wpt* ‘Overseer of Missions.’⁴⁵ At el-Sheikh Said both Serfka and Werirni held the title, but none of the later officials do. The fifth dynasty title *šm t3* also no longer occurs during the sixth dynasty, and instead the chief of a nome is indicated as *hry-tp 3 n [sp3t]* ‘great chief of [nome]’.⁴⁶ At el-Sheikh Said, only Uiu is known to have carried this title.

When considering the other titles of the sixth dynasty officials buried at el-Sheikh Said, it is obvious that two of them, Meru/Bebi and Teti-Ankh/Imhotep, were also connected to the royal mortuary cult. In addition to the title *hq3 hwt*, these men also carry the title *hq3 hwt* + royal name. This construction refers to a royal domain of which the revenues were destined for the upkeep of the cult of the specified king.⁴⁷ Meru/Bebi was a *hq3 hwt ppy* and a *hq3 hwt tti*,⁴⁸ while Teti-Ankh/Imhotep was a *hq3 hwt ppy*.⁴⁹ Their responsibilities as rulers of a domain belonging to a certain king (Pepi or Teti) is different in nature than the involvement of the fifth dynasty nomarchs in the mortuary cult, who were connected to this cult as *hm-w-ntr* and not as *hq3 hwt*.

The overview of the title strings of the administrators buried at el-Sheikh Said and Deir el-Bersha allows for an attempt to reconstruct the chronology of the Old Kingdom in the Hare Nome. It seems certain that Deir el-Bersha was first chosen as a burial site by high officials residing at el-Ashmunein.

Ia-Ib held extremely high titles for his time and clearly had a good connection with the royal court since he was allowed to place a royal decree on his tomb. At the same time we now possess the first evidence that there was a *ḥw-t ʿ3-t* in the Hare Nome during the fifth dynasty, and its ruler, Ny-Ankh-Nemty, was buried on the slope of the north hill at Deir el-Bersha. Where exactly this Ny-Ankh-Nemty should be placed in the fifth dynasty is unknown, but it seems feasible that he should be dated around the same time as Ia-Ib since *ḥw-wt ʿ3-wt* disappeared in the late fifth dynasty.

At the end of the fifth dynasty two persons were appointed as regional leaders in the Hare Nome, namely Serfka and later his son, Werirni. They play a part in the larger scheme of the royal court to exploit the fertile lands of Middle Egypt, but other economic interests seem to have been involved as well. These include the trade route towards the Bahariya oasis, but more importantly, also the alabaster quarries that are located in this area. Inscriptional evidence shows that the alabaster quarry at Hatnub was already exploited during the Old Kingdom, with the oldest inscription dating to the reign of Khufu.⁵⁰

However, there was another, less well known alabaster quarry nearby that seems to have played a crucial role in explaining why the governors of the Hare Nome during the fifth and sixth dynasties favoured el-Sheikh Said as a burial place, a site which plays no role of importance during later periods of pharaonic history. At the mouth of the Wadi Zabayda, located in the southern part of el-Sheikh Said, Old Kingdom settlement remains were discovered by the Katholieke Universiteit Leuven in 2007.⁵¹ After two excavation seasons in this area, it becomes ever more clear that this area formed part of a royal domain. Fourth dynasty seal impressions naming Khufu have been found, along with a large-scale production site for bread. The bakery seems to belong to an industrial site where limestone and alabaster was being worked. This stone was extracted from a quarry that lies some 2.5 km further to the south-east in the desert, the Maghara Abu Aziz. This quarry is in many ways similar to nearby Hatnub: it is shaped like a horseshoe, cuts several metres deep into the bedrock, and has a long access road that is carved into the rock. On one side of this entry road, a number of niches are carved out, one of which still bears traces of decoration. While hardly any legible traces are preserved, this setup is reminiscent of the line of niches for stelae that is also preserved at Hatnub, where, incidentally, the earliest royal inscription also dates to the reign of Khufu.⁵²

So far there is no evidence that this fourth dynasty industrial site continued to be in use during the fifth and sixth dynasties, but research in this area has only just begun and it does not seem unlikely that activity continued here after the fourth dynasty, as it did in Hatnub as well. One of the titles of the fifth dynasty Serfka, *ḥm-ntr ḥwfw* ‘God’s Servant of Khufu’, may reflect the importance that Khufu held for el-Sheikh Said. The same Serfka is also a god’s servant of Userkaf, while Werirni is a god’s servant of

the domain of Niuserre. Perhaps these fifth dynasty pharaohs continued the exploitation of the natural resources in this area, making el-Sheikh Said the likely burial place for the local rulers and high elite of that time. While still hypothetical, this could also imply that the persons buried at el-Sheikh Said were in fact not living in the provincial capital el-Ashmunein, but in a settlement nearby. The situation in the Fifteenth Upper Egyptian Nome would therefore differ from that in the Third, Ninth, and Sixteenth Upper Egyptian Nomes mentioned in the beginning of this article: economic motives led to the development of a second Old Kingdom elite necropolis at el-Sheikh Said. The many titles involving the people buried at el-Sheikh Said with the royal mortuary cult, may indicate that the upkeep of this cult was one of the main reasons why this industrial area flourished in the Hare Nome. In contrast, the title strings of the officials buried at Deir el-Bersha do not reflect a connection to the industrial activities at el-Sheikh Said, and they seem to have been involved in the administration of other domains in the Hare Nome.

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² J. C. Moreno Garcia, 'Temples, administration provinciale et élites locales en Haute-Egypte. La contribution des inscriptions rupestres pharaoniques de l'Ancien Empire', in A. Gasse and V. Rondot (eds), *Séhel. Entre Egypte et Nubie. Inscriptions rupestres et graffiti de l'époque pharaonique. Actes du colloque international (31 mai–1 er juin 2002) Université Paul Valéry, Montpellier* (Orientalia monspeliensia 14; Montpellier 2004), 7–22; J. C. Moreno Garcia, 'Deux familles de potentats provinciaux et les assises de leur pouvoir: Elkab et el-Hawawish sous la Vie Dynastie', *RdE* 56 (2005), 95–128. To this list Meir and Quseir el-Amarna in the fourteenth Upper Egyptian nome can be added (E. Martin-Pardey, *Untersuchungen zur ägyptischen Provinzialverwaltung bis zum Ende des Alten Reiches* (HÄB 1; Hildesheim 1976), 120–125; A. El-Khouli and N. Kanawati, *Quseir el-Amarna. The Tombs of Pepy-Ankh and Khewen-wekh*, (ACE Reports 1; Sydney 1989), 11–26).

³ Moreno Garcia, in Gasse and Rondot (eds), *Séhel. Entre Egypte et Nubie*, 7–22.

⁴ Old Kingdom remains at el-Ashmunein are very scarce. Only the vestiges of an Old Kingdom temple have been uncovered in the ground water underneath a Middle Kingdom temple (G. Roeder, *Hermopolis 1929–1939. Ausgrabungen der Deutschen Hermopolis Expedition in Hermopolis, Ober-Ägypten, in Verbindung mit zahlreichen Mitarbeitern*, (Pelizaeus-Museum zu Hildesheim, wissenschaftliche Veröffentlichung 4; Hildesheim 1959), 48 (§52a) and 76 (§3); D. Kessler, *Historische Topographie der Region zwischen Mallawi und Samalut* (TAVO, Beihefte 30; Wiesbaden 1981), 83.

⁵ N. de G. Davies, *The Rock Tombs of Sheikh Saïd* (ASE 10; London 1901).

⁶ Some general remarks about them can for instance be found in F. L. Griffith and P. E. Newberry, *El-Bersheh II* (ASE 4; London [1895]), 55–66; E. Brovarski, R. E. Freed, O. E. Kaper, J.-L. Lachevre, M. Robinson, D. P. Silverman, R. Van Walsem, H. Willems, *Bersheh Reports I. Report of the 1990 Field Season of the Joint Expedition of the Museum of Fine Arts, Boston; University Museum, University of Pennsylvania; Leiden University* (Boston 1992), 67–69; Kessler, *Historische Topographie*, 99–102. Since 2002 the Old Kingdom rock tombs at Deir el-Bersha have been under study by the present author (M. De Meyer, *Old Kingdom Rock Tombs at Dayr al-Barshā. Archaeological and Textual Evidence of their Use and Reuse in Zones 4 and 7* (Doctoral dissertation, Katholieke Universiteit Leuven, 2008)).

⁷ The tombs in question are those of Ia-Ib, Ny-Ankh-Nemty, An-Ankhy, Imi, Uky, and Sobekhotep (De Meyer, *Old Kingdom Rock Tombs at Dayr al-Barshā*, 23–84).

⁸ In 2009 initial excavations were undertaken in this area by B. Vanthuyne and P. Verlinden. Comparable structures are found for instance at Nuwayrat (J. Garstang, *Burial Customs of Ancient Egypt as Illustrated by Tombs of the Middle Kingdom. A Report of Excavations Made in the Necropolis of Beni Hassan During 1902–3–4* (London 1907), 26–30). Compare also to W. M. F. Petrie, E. Mackay, and G. Wainwright, *Meydum and Memphis (III)*, (BSAE 18; London 1910), 28–35 and pl. 23; and to the early dynastic burials underneath large pottery vessels at Raqaqna (J. Garstang, *Tombs of the Third Egyptian Dynasty at Reqâqnah and Bêt Khallâf. Report of Excavations at Raqaqnah 1901–2* (Westminster 1904), 51–57).

⁹ There are exceptions where rock tombs dating to the fourth dynasty are attested, such as for instance at the site of Nuwayrat (Garstang, *Burial Customs*, 26–30; see also the remarks in H. O. Willems, *Les Textes des Sarcophages et la démocratie. Éléments d'une histoire culturelle du Moyen Empire égyptien. Quatre conférences présentées à l'Ecole Pratique des Hautes Etudes, Section des Sciences Religieuses, mai 2006* (Paris 2008), 18–19); or the Fraser tombs near Tihna el-Gebel (for a recent view on the dating, see H. Willems, 'Zum sozialen Hintergrund der Bestimmungen des *Ny-k3-rnh* bei Tihna al-Jabal' in H.-W. Fischer-Elfert (ed.), *Festschrift Detlef Franke* (forthcoming)).

¹⁰ A hand copy of the decree was published in R. Anthes, *Die Felseninschriften von Hatnub* (UGAÄ 9; Leipzig 1928), pl. 2, *Inscript* XV, and a photo in Brovarski et al., *Bersheh Reports I*, 67. A new and improved copy of this text can be found in De Meyer, *Old Kingdom Rock Tombs at Dayr Barshā*, 28–32 and pl. I.

¹¹ This type of decree is called an *Ernennungsurkunde* in H. Goedicke, *Königliche Dokumente aus dem alten Reich*, (ÄA 14; Wiesbaden 1967), 2, 232.

¹² De Meyer, *Old Kingdom Rock Tombs at Dayr al-Barshā*, 488–652.

¹³ For First Intermediate Period restoration of the tombs, see M. De Meyer, ‘Restoring the Tombs of His Ancestors? Djehutinakht, Son of Teti, at Deir al-Barsha and Sheikh Said’, *IBAES* 5 (2005), 125–135; M. De Meyer, ‘The Tomb of Henu at Deir el-Barsha’, *EA* 31 (2007), 20–24.

¹⁴ For the reading of the  sign as *mbr*, see J. F. Quack, ‘Zum Lautwert von Gardiner Sign-List U23’, *LingAeg* 11 (2003), 113–116. Harco Willems also points out the phonetic writing of ‘pyramid’ as [...]  [m]br in Goedicke, *Königliche Dokumente*, 79.

¹⁵ W. Grajetzki, ‘Der Gebrauch von Rangtiteln in der Provinzialverwaltung der 1. Zwischenzeit und des frühen Mittleren Reiches’, in C.-B. Arnst (ed.), *Begegnungen—Antike Kulturen im Niltal. Festgabe für Erika Endesfelder, Karl-Heinz Priese, Walter Friedrich Reineke, Steffen Wenig* (Leipzig 2001), 161, 167.

¹⁶ C. Vandersleyen, ‘Un titre du vice-roi Mérimose à Silsila’, *CdE* 43 (1968), 238–240; H. Spiess, *Der Aufstieg eines Gottes. Untersuchungen zum Gott Thot bis zum Beginn des Neuen Reiches* (Doctoral dissertation, Universität Hamburg, 1991), 210.

¹⁷ Spiess, *Der Aufstieg eines Gottes*, 211.

¹⁸ For a survey of the different interpretations that have been given to the term *ḥwt-ḥt*, see J. C. Moreno Garcia, ‘Administration territoriale et organisation de l’espace en Egypte au troisième millénaire avant J.-C. (III–IV): *nwt mwt* et *ḥwt-ḥt*’, *ZÄS* 125 (1998), 45, n. 33.

¹⁹ P. Lacau and J.-P. Lauer, *La pyramide à degrés 4 : Inscriptions à l’encre sur les vases* (Fouilles à Saqqarah; Cairo 1965) nrs. 10, 30, 32, 33, 50, 55, 74, 77, 78, 111, 127, 177bis.

²⁰ J. C. Moreno Garcia, ‘L’organisation sociale de l’agriculture dans l’Egypte pharaonique pendant l’ancien empire (2650–2150 avant J.-C.)’, *JESHO* 44 (2001), 419; Martin-Pardey, *Untersuchungen zur ägyptischen Provinzialverwaltung*, 54–57.

²¹ A list of all persons carrying titles with the element *ḥwt-ḥt* is presented in Moreno Garcia, *ZÄS* 125 (1998), 53–55 [addendum]. To this list Ny-Ankh-Nemty at Deir el-Bersha should now be added.

²² H. G. Fischer, *Dendera in the Third Millennium B.C. down to the Theban Domination of Upper Egypt* (Locust Valley, New York 1968), 72–73; Moreno Garcia, *ZÄS* 125 (1998), 47–48.

²³ Martin-Pardey, *Untersuchungen zur ägyptischen Provinzialverwaltung*, 54–57; Willems, *Les Textes des Sarcophages et la démocratie*, 27.

²⁴ Moreno Garcia, *ZÄS* 125 (1998), 46–49.

²⁵ These four individuals should be added to the list of provincial *ḥqꜣw ḥwt* in J. C. Moreno Garcia, *ḥwt et le milieu rural égyptien du IIIe millénaire. Economie, administration et organisation territoriale* (Bibliothèque de l’Ecole des Hautes Etudes, sciences historiques et

philologiques 337; Paris 1999), 270–277; as well as to P. Piacentini, *Gli Amministratori di proprietà nell'Egitto del III millennio a.C. = Studi di egittologia e di antichità puniche* 6 (1989), further completed by P.

Piacentini, 'Gli *ḥqꜣw ḥwt*': Addenda', *Studi di egittologia e di antichità puniche* 13 (1994), 3–42. For the inscriptions in their tombs, see De Meyer, *Old Kingdom Rock Tombs at Dayr al-Barshā*, 44–64.

²⁶ Fischer, *Dendera in the Third Millennium*, 73, n. 300; P. Piacentini, 'On the Titles of the *ḥqꜣw ḥwt*', in S. Allam (ed.), *Grund und Boden in Altägypten (rechtliche und sozio-ökonomische Verhältnisse). Akten des internationalen Symposions Tübingen 18.–20. Juni 1990* (Untersuchungen zum Rechtsleben im alten Ägypten 2; Tübingen 1994), 239.

²⁷ W. Grajetzki, *Die höchsten Beamten der ägyptischen Zentralverwaltung zur Zeit des mittleren Reiches. Prosopographie, Titel und Titelreihen* (Achet: Schriften zur Ägyptologie A2; Berlin 2003), 226, 235. The history of the reading and the interpretation of the title has been elaborately treated by H. Goedicke, 'Titles For Titles', in S. Allam (ed.), *Grund und Boden in Altägypten* (Untersuchungen zum Rechtsleben im alten Ägypten 2; Tübingen 1994), 227–228. His proposition to read the title as *tpy-ḥrt-nswt* 'the one upon royal property' is not generally accepted. Recently Moreno Garcia has argued that a *ḥry-tp nswt* was a local agent of the king who was charged with the organisation and collection of temple revenues (Moreno Garcia, *RdE* 56 (2005), 117).

²⁸ The *ḥry-tp nswt* at el-Hawawish also did not hold high provincial titles like nomarch or priest of the Min temple. They belonged to the group of administrators that were connected to the central government of Egypt, and not the high local elite (Moreno Garcia, *RdE* 56 (2005), 117–118).

²⁹ The titles in the tombs of el-Sheikh Saïd have been the subject of many studies concerning provincial government in the Old Kingdom; see for instance Piacentini, *Gli 'Amministratori di proprietà'*, 107–117; Moreno Garcia, *ZÄS* 125 (1998), 42–43; N. Kanawati, *Akhmim in the Old Kingdom. Part I: Chronology and Administration* (ACES 2; Sydney 1992), 40–41, 78–79, 122–124, 145, 173, 207–208, 279.

³⁰ Davies, *Sheikh Saïd*, 10–14, pl. 3–6 [Tomb no. 24].

³¹ Davies, *Sheikh Saïd*, 14–24, pl. 7–16 [Tomb no. 25].

³² K. Baer, *Rank and Title in the Old Kingdom. The Structure of the Egyptian Administration in the Fifth and Sixth Dynasties* (Chicago 1960), 293, nr. 457 (Serfka) and 289, nr. 114 (Werirni).

³³ H. G. Fischer, *Dendera in the Third Millennium*, 74; MartinPardey, *Unter suchungen zur ägyptischen Provinzialverwaltung*, 57–63.

³⁴ Willems, *Les Textes des Sarcophages et la démocratie*, 15.

³⁵ Willems, *Les Textes des Sarcophages et la démocratie*, 27.

³⁶ Davies, *Sheikh Saïd*, 27–29, pl. 21–24 [Tomb no. 19]; Baer, *Rank and Title*, 225, 282 (no 106). In Baer's dating sequence Uiu is placed in VI C,

Merenre to early Pepy II. As Uiu is to be dated before Meru, Baer concludes that he was the father of Meru, and not his son, as Davies assumed (Davies, *Sheikh Saïd*, 42).

³⁷ Davies, *Sheikh Saïd*, 24–27, pl. 18–21 [Tomb no. 20]. Davies dated this tomb to the sixth dynasty, from the reign of Pepi I or later. Baer was able to refine this date to the middle of the reign of Pepi II (regnal years 35–55) based on the variable title sequences in the tomb (Baer, *Rank and Title*, 225, 283 [no 192]). In Baer's dating sequence, Meru/Bebi is placed in VI E.

³⁸ Davies, *Sheikh Saïd*, 31–34, pl. 27–30 [Tomb no. 15]. Baer dates him to the reign of Pepy I or later (Baer, *Rank and Title*, 152, no 561). A more precise dating could not be obtained for the tomb of Teti-Ankh due to the lack of variable title sequences. As Kanawati rightly observed, the name Teti-Ankh itself may form an indication that he was born during the reign of Teti, and a cartouche of Pepy in his tomb points to the fact that he died during Pepy I's reign (N. Kanawati, *Governmental Reforms in Old Kingdom Egypt* (Warminster 1980), 50). However, the identification of Teti-Ankh from el-Sheikh Saïd with a Teti-Ankh known from a graffito at Tomas in Lower Nubia, which Kanawati proposes, seems unlikely. The title *im-y-r* 'Overseer of mercenaries' that is characteristic for the Teti-Ankh from Tomas, does not occur anywhere in the tomb of Teti-Ankh at el-Sheikh Saïd, and the mere fact that their names are identical does not form

sufficient proof (see H. Goedicke, 'The Title  in the Old Kingdom,' *JEA* 46 (1960), 62; G. E. Kadish, 'Old Kingdom Egyptian Activity in Nubia: Some Reconsiderations,' *JEA* 52 (1966), 23–24).

³⁹ Davies, *Sheikh Saïd*, 11. The 'Middle Nomes' included nomes 10–15 of Upper Egypt, and possibly also nome 9 (Fischer, *Dendera in the Third Millennium*, 65–66). Kanawati defines the 'Middle Nomes' as nomes 9–20 of Upper Egypt based on the production capacities of the land, and argues that they did not form an administrative entity but that it was rather a geographical term indicating an 'economically important area' (Kanawati, *Governmental Reforms*, 5–8, 67–71).

⁴⁰ Moreno Garcia, *hwt et le milieu rural*, 241.

⁴¹ Moreno Garcia, *ZÄS* 125 (1998), 38–45.

⁴² Moreno Garcia, *ZÄS* 125 (1998), 44; Moreno Garcia, *hwt et le milieu rural*, 263–264.

⁴³ Davies, *Sheikh Saïd*, pl. 6 and 13.

⁴⁴ Fischer, *Dendera in the Third Millennium*, 68.

⁴⁵ Fischer, *Dendera in the Third Millennium*, 73–74; Martin-Pardey, *Untersuchungen zur ägyptischen Provinzialverwaltung*, 66–69; E. Martin-Pardey, 'Gedanken zum Titel , *SAK* 11 (1984), 231–251. See also the comments about this title in Willems, *Les Textes des Sarcophages et la démocratie*, 27–28, and n. 69.

⁴⁶ Baer, *Rank and Title*, 281; Fischer, *Dendera in the Third Millennium*,

74–76; Martin-Pardey, *Untersuchungen zur ägyptischen Provinzialverwaltung*, 57–63, 111; Moreno Garcia, *Hwt et le milieu rural*, 241–242; Moreno Garcia, in Gasse and Rondot (eds), *Séhel. Entre Egypte et Nubie*, 9; Moreno Garcia, *RdE* 56 (2005), 99.

⁴⁷ Martin-Pardey, *Untersuchungen zur ägyptischen Provinzialverwaltung*, 137–139. Instead of *ḥqḥ ḥwt* + royal name, the construction *ḥqḥ ḥwt* + royal pyramid name also occurs (Idu I of Dendera, and Ibi of Deir el-Gabrawi).

⁴⁸ Davies, *Sheikh Saïd*, pl. 19.

⁴⁹ Davies, *Sheikh Saïd*, pl. 29.

⁵⁰ Anthes, *Die Felseninschriften von Hatnub*, 13–23.

⁵¹ H. Willems, S. Vereecken, L. Kuijper, B. Vanthuyne, E. Marinova, V. Linseele, G. Verstraeten, S. Hendrickx, M. Eyckerman, A. Van den Broeck, W. Van Neer, J. D. Bourriau, P. French, C. Peeters, V. De Laet, S. Mortier, Z. De Kooning, ‘An Industrial Site at al-Shaykh Sa'id/Wadi Zabayda’, *Ä&L* 19 (2009), 291–331.

⁵² Anthes, *Die Felseninschriften von Hatnub*, pl. 1.

Blocks from the Unas causeway recorded in Černý's notebooks at the Griffith Institute, Oxford

Andrés Diego Espinel

The dawn of the Second World War proved to be one of the toughest periods in the life of Czech Egyptologist Jaroslav Černý (1898–1970), trapped as he was in Egypt from 1940 to 1943.¹ Nonetheless, he still found time to visit a number of sites during those years along the Nile Valley. Upon each visit, he would record different inscriptions and data in notebooks, which to this day remain in the Griffith Institute, Oxford.² One of the places Černý visited was Saqqara and in several visits to the site on the 12th, 13th and 19th February 1941, he recorded, in careful and clear handwriting, scenes and inscriptions from over a hundred and twenty different reliefs³ taken from the walls of the causeway of the mortuary complex of king Unas (fifth dynasty).

These reliefs (Appendix I) had been previously discovered in successive excavations, firstly by Firth in 1930, and later by Zakaria Ghoneim and Selim Hassan in 1938–1939, when the majority of them were recovered. Subsequent excavations by Mohamed Hussein in 1941–1943, Selim Hassan and Mohamed Awad Raslan in 1956–1957, and Ahmed M. Moussa and Audran Labrousse in 1971–1990, also provided additional blocks.⁴

Černý's own notes on Unas' blocks are catalogued by the Griffith Institute as Notebook no. 120 (here after cited as ČN 120), pages 56–78. They were written, alongside other records from different monuments at Saqqara during the same period, in a thin and roughly A5 sized ruled paper notebook. Leaving space for some brief commentaries, many of these records were written on the odd numbered pages in the book and all were written in French with later additions pencilled in English. Černý gave a number to each relief, describing the scenes register by register from bottom to top. Certain additional notes, the purpose of which remains unknown, were also

added to the text in pencil. In 45 instances entry numbers were accompanied by 'C. U.' (Causeway of Unas?) followed by numbers, the relevance of which is hard to decipher (for example 'C. U. 111').⁵ It is believed, however, that these figures correlate to a numerical system closely connected to the blocks. For example, Černý's no. 33, annotated as C. U. 60–63, is described as *série de 4 blocs de base* (ČN 120, 62.). In some instances however, C. U. numbers did not match perfectly with the precise numbers of blocks recorded in the notebook. No. 37, annotated as C. U. 68–73, is formed of five different blocks, not six (ČN 120, 63). On the other hand, no. 84, registered as C. U. 23 + 24 + 25 + 26, is described as *trois blocs se raccordant* (ČN 120, 70). Furthermore, in 38 instances, Černý's numbers were ticked (✓), again for reasons unknown.⁶

The notebook also includes a loose sheet which was numbered as pages 103–104 (Fig. 4). This piece of paper, written in German by a different scholar, reveals slightly different readings of the causeway inscriptions from those already recorded by Černý. Comparing Černý's notes⁷ with other archive material in the Griffith Institute subsequently helped identify this author, Georgian-born Egyptologist Bernhard Grdseloff (1905–1950), who had left many of his notes with Černý before his death. The neat handwriting on the page appears to be more precise and careful than that demonstrated in other Grdseloff's works, although the calligraphy and the means of recording the hieroglyphs follows very similar patterns. Annotations made by Grdseloff in that sheet were subsequently corrected and completed by Černý in red and black pencil.

Unas' reliefs in Černý's notes are mentioned in the second edition of the Topographical Bibliography volume on the Memphite area (see Appendix I of the present paper).⁸ However, somewhat surprisingly, they have been frequently neglected or have gone unnoticed by researchers who have studied the mortuary complex of Unas in later years. Helen Jacquet-Gordon apparently did not use them in her study on Old Kingdom funerary states. Again the likelihood is that she too had no idea of their existence and instead worked with different notes and journals written by the likes of Firth, Hassan, Goedicke and herself.⁹ In recent years, Audran Labrousse and Ahmed Moussa in their publication on the Causeway of Unas seldom mentioned Černý's notes, citing them only through indirect references.¹⁰

Studying these notes can be approached from many different ways. As Yvonne Harpur has pointed out to me, the order in which reliefs were recorded follows a route that could help to reconstruct the decorative programme of the causeway, or could place within it currently lost blocks with relative precision. In the following pages I will examine these reliefs using a more generic, descriptive approach. My intention here is try to focus in general terms on the data from Unas' causeway as recorded in ČN 120, studying its relevance from a historical and artistic perspective. I am particularly interested in the notes which record blocks with iconographic

subjects previously unattested in other royal complexes and in sources which document lost details in already published scenes.¹¹

Despite its importance, information provided by Černý's notes is limited. These records combined detailed transcriptions of carved texts with extremely synthetic descriptions of related scenes, always following the same bottom-up order. A good example of this can be found in ČN 120, 58 (no. 11), a description of the block which includes the famous *affamés* or Bedouin. Indeed it is referred to synthetically as 2 reg.: *famine en 2 subregistresème*¹² (for other examples of laconic accounts see nos 117 and 118 in Fig. 8). Rarely did Černý ever produce detailed line drawings, for example, ČN 120, 59 (no. 19) depicting a leather craftsman (Fig. 1),¹³ or the scenes depicting the seasons¹⁴ (see another example in Fig. 6). Detailed drawings are scarce within the notes and in general, they represent unusual objects or gestures (see, for example, Fig. 5).



Fig. 1: ČN 120, 59 (no. 19) (courtesy of the Griffith Institute)

The notes neither contain dimensions or precise provenances. In spite of this, however, his descriptions still offer us significant information. Being the renowned epigrapher that he was, Černý carefully recorded inscriptions and graffiti from many blocks that have been lost or damaged since then. Labrousse and Moussa in fact have been able to publish properly just 133 reliefs, and yet the Egyptian excavations probably recovered more than 400.¹⁵ In this respect, the Oxford notes are especially relevant since they collect around forty blocks unattested elsewhere and offer complementary or new data to many already published reliefs (see example in Fig. 2). In general, these pieces of information relate not only to the epigraphic record, but also to other aspects such as the arrangement of the scenes or the joining of certain blocks.¹⁶

Notwithstanding his attention to detail, as is often the case with epigraphic records copied first hand with no subsequent collations, Černý's notes frequently contain mistakes, omissions and inaccuracies.¹⁷ Thus, information from these annotations has to be viewed with extreme caution. This indeed serves as a warning not to offer conclusive interpretations or categorical statements, particularly on the basis of missing or damaged material.

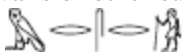
1. New readings of ‘narrative inscriptions’ (nos 30; 81; 83; 85; 86; 89) (Fig. 3, Fig. 4)

Černý's notes include some blocks which contain detailed texts displayed in columns. These are of particular interest because of their apparent length and ‘historical’ content. They are also some of the very rare examples of long ‘narrative’ accounts that are found in Old Kingdom royal mortuary complexes. All but one have been documented by Labrousse and Moussa but Černý's readings are more complete. Yet in some cases, notably nos 30, 85 and 86, there is only a slight improvement in reading clarity.¹⁸ In other instances there are more relevant additions of text, as is the case with nos 81, 83 and 89.¹⁹ No. 81 is particularly interesting as it includes significant traces of parts which have since been lost. It mentions an object made ‘with foreign wood’ ([...] *m ht hst*), and records other signs which were later destroyed at the top of the text columns.

Some of these improved copies were subsequently recorded by Roccati in his translations, for which he used *quelques copies de Černý*.²⁰ Furthermore, the sheet supposedly written by Grdseloff includes all of these texts as well as an additional new block, ČN 120, 103 ([1]), containing the remains of an inscription of similar features which had in fact not been registered by Černý (Fig. 4, annotated ‘I have not got this block among my copies’). However, this example, which possibly relates to shipping, offers only a few signs which are arranged in four columns.

2. Court titles and personal names recorded by Černý (Fig. 5; Appendix II)

Notations and drawings from ČN 120 also offer new information on titles and personal names from the royal mortuary complex. Some administrative offices are rarely attested on the walls of other such complexes (see

Appendix II). That is the case of, , *imy-t sr-w*, ‘overseer of the *sr-w* officials’, which appears in two instances;²¹ the title

 *wrsmw whrt*, ‘chief of a landing area/shipyard’;²² the

presence of several , *shd mdh-w* ‘inspector of carpenters’;²³ and the

title , *imy-<r> (?) zhs mrt*, ‘overseer (?) of the scribe(s) of the *mrt* servants’ or less likely ‘of the *mrt* building’.²⁴



Fig. 2: ČN 120, 56 (no. 4) (shaded areas signal current lost parts of the inscription) (courtesy of the Griffith Institute)

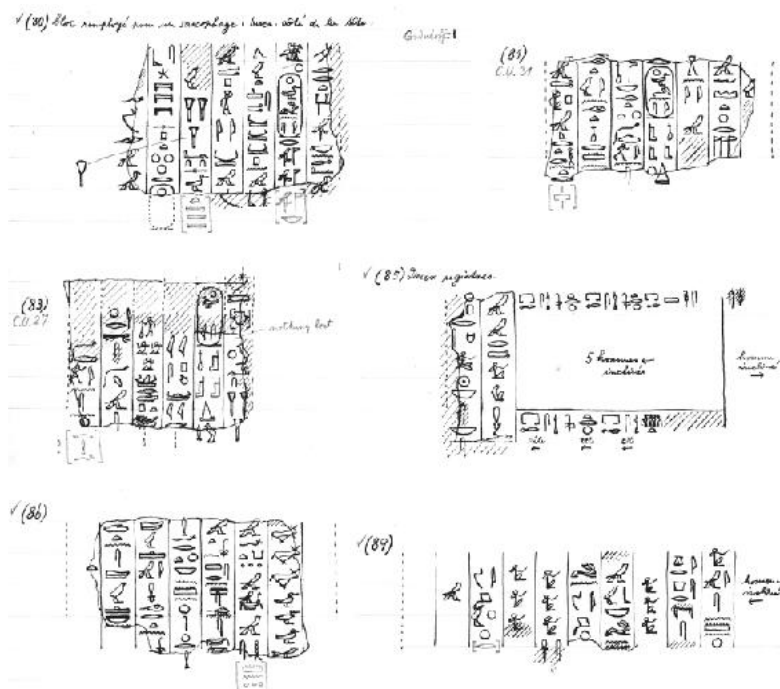
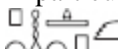
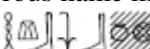


Fig. 3: From top to bottom and left to right: ČN 120, 61 (no. 30); 69 (nos 81; 83); 70 (nos 85–86); 71 (no. 89) (courtesy of the Griffith Institute)

The notes offer new names for the individuals depicted on the reliefs which came from both unattested and already published scenes (Appendix II). Block no. 68 (Fig. 5), already partially recorded by Labrousse and Moussa, is remarkable because it depicts at its centre two facing groups of people who hold some of the highest offices of the central administration.²⁵ The first person in the queue looking leftwards is an unidentified vizier (*ḥrty zsb ḥrty*) and ‘overseer of [all] the works [of the king]’ (*imy-r kst [nbt ny-swt]*). The first individual in the row facing right is an unidentified ‘overseer of all the works of [the king?] [in?] the pyramid town (...)’. Both individuals are followed by a lector priest, priestly officers and some sole friends, some of whom have incomplete basilophorous names such as Izezi and perhaps even Izi (Neferefre) or Ini (Niuserre).

Černý annotated some names on blocks recently published by Labrousse and Moussa, which have since been destroyed. In block no. 57, he read the name , *ḫwt(w)-n ḫnmw/bz* ‘Khuiu-Khnum/Ba’, which Labrousse and Moussa have referenced as .²⁶ In a row of scribes depicted in block no. 5 he recorded the names , *sšm-nfr*, ‘Seshem-nefer’ and , [...]-*nb* [...], in the third and fourth figures respectively from the right.²⁷ Similarly, he recorded in no. 10 the name , ‘Tjenti’,  in Labrousse and Moussa's copy.²⁸ Another block, no. 23, also published by Labrousse and Moussa, recorded a now lost official called , *ini*, ‘Ini’.²⁹

Černý's notes also report unpublished blocks with names, for example, one in particular which depicts several individuals with no titles³⁰ called , *pth-ḥtp(w) km* ‘Ptah-hetep (called) the black’;³¹ , *ḥm=(i)-ḥt* ‘Hemiakhet’;³² and a partial theophorous name: .³³ Smaller blocks record some incomplete anthroponyms such as , ‘[...]t-shepses (called) the red’; a name which possibly includes that of the god Shesmu ();³⁴ or an incomplete basilephorous name mentioning king Khufu.³⁵ In another instance, Černý records a , *hry-ḥb nbh* [...] (?)’, ‘lector priest, Nekheb[...] (?)’.³⁶

His notes also refer to the presence of *damnationes memoriae* not previously examined by other authors. This is the case of erasures to some figures depicted in lines of bowing officials facing right. In the first example (formed by four matching blocks) Černý documents the *19ème [figure] martelé*.³⁷ He also manages to record some not documented since. The twenty-first individual (following Černý's reckoning) is preceded by the name , *sšm-nfr*, ‘Seshem-nefer’, and in front of the twenty-second, there is a graffito with the unattested anthroponym , *ḫwt-nbw(y)* (?) ‘Hatnub(y)’.³⁸ In the second example, the sixth and seventh figure on the left hand side have been erased³⁹ meanwhile the identification of the first figure on the right has changed. The name Khnum-hetep was carved over that of a figure originally called , *ḥm=(i)-r* ‘[He]mire’. Explanations for these kinds of *damnationes* are countless and often include suggestions such as official prosecution, dynastic interests, personal vendettas or more prosaic reasons such as decorative rearrangements and/ or penitenti. Nevertheless this last reason seems most plausible here since Hemi-Re's name is attested in other blocks from the causeway.⁴⁰

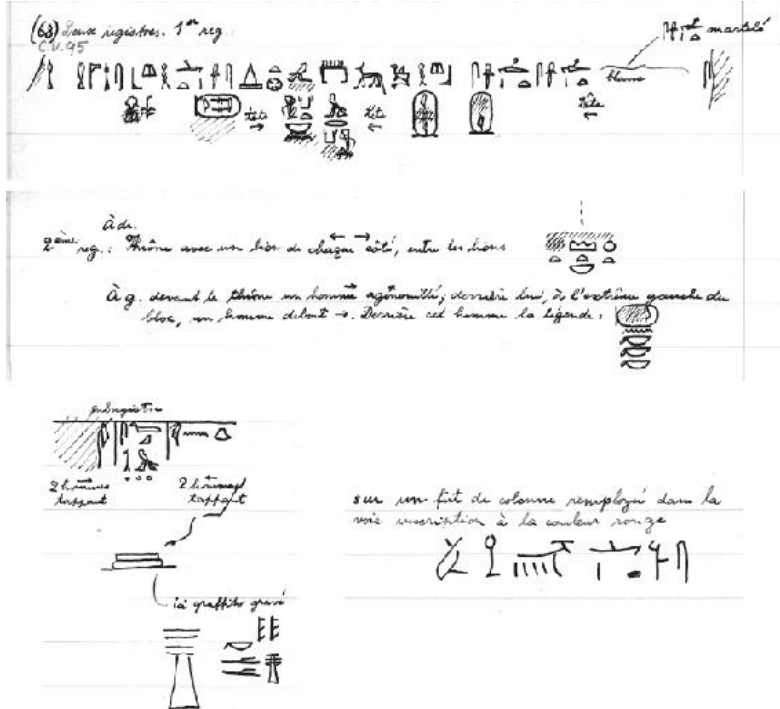


Fig. 5: ČN 120, 67–68 (no. 68) (top); 60 (no. 21) (bottom left); 59a (unnumbered) (bottom right) (courtesy of the Griffith Institute)

Černý recorded some graffiti on the blocks, notably under a metal-working scene (no. 21) in which appears , *gnwty dd(w)-dd-k3=(t) (?)*, 'the sculptor Dedu-djedkai (?)' (Fig. 5).⁴¹ The Czech egyptologist also documented a red inked hieratic text painted on a re-used column referring to , *smr w'ty hm=i-b3/hnmw*, 'the sole companion Hemi-Ba/Hemi-Khnum' (Fig. 5).⁴² This official is also attested in others reliefs from the causeway, and it is more than likely he participated in building activities related to the royal complex.⁴³

only documented in the causeway of Sahure's mortuary complex.⁴⁶

In actual fact, this scene could also be linked to the aforementioned *affamés* or Bedouin block which also came from Unas' causeway (and which was also recorded by Černý). The relief in Sahure's complex, including the transport of the pyramidion, seems to relate to a block with similar apparently famine-stricken people.⁴⁷ Indeed Harpur has recently published a re-used block from Unas' causeway depicting another group of emaciated people followed by bowing officials that, unfortunately, does not help in clarifying a precise iconographical context for the representations of these starving persons.⁴⁸ In any case, whilst there may be a direct correlation between the *benbenet* transport and the depiction of Bedouin in Unas' causeway, this should still perhaps be treated with caution since both the *benbenet* relief and the *affamés* scene appear to be spatially far from one another, according to their respective numbers in Černý's notebooks.

Block no. 67 may also relate to the blocks, currently *in situ*, which depict vessels carrying different architectural elements of the mortuary complex such as columns, lintels, and so on.⁴⁹ In addition, aside from the blocks with 'historical' inscriptions relating to these scenes (see section 1), some of the captions on the representations of the vessels were also documented by both Černý and Grdseloff,⁵⁰ but their notes offer only minor additions concerning more recent studies on these texts.⁵¹

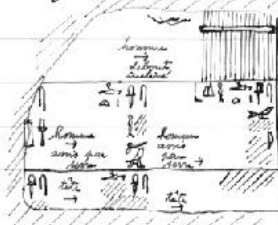
4. Transport scenes of indeterminate furnishings (nos 114–115) (Fig. 7)

As with Sahure's corridor, the *benbenet* scene of Unas appears to share similarities with blocks nos 114–115 (Fig. 7) depicting a procession of servants carrying a number of different furnishings.⁵² Amongst them are some intriguing objects. In three instances individuals carry or present large unidentified items. Their shapes recall smaller containers depicted in the sun temple of Niuserre at Abu Ghurab which von Bissing himself defined as *Libationkästen* which were also used as semagrams for the writing of *ssd*, *dhwtj*, or *wsg* festivals, among other festivities.⁵³ These small containers have also been described as offering tables or *Opfertische*,⁵⁴ and *hnt* boxes in the 'Ramesseum Unique Liturgy'.⁵⁵ Since objects depicted in Unas' causeway were essentially bigger, these could often be identified with larger wooden or reed receptacles. Depictions of similar objects are attested in the tomb of Hezyre at Saqqara (third dynasty).⁵⁶ Unas' objects may in fact even be staffs kept on a stand or, less possibly, wooden doors.⁵⁷

(114) À dr. le roi → assis sur trône, derrière lui la paroi, à une échelle plus petite, assise par terre. Au-dessus d'elle:



Derrière elle 3 subregistres:



(115) un reg. (de dr. à g.)



(28) un registre. 4 hommes assis devant une chaise basse. Derrière subregistre. ligne de réparation à l'extrême droite.



(40) ^{à g.} (mobilier royal en deux subregistres, dans celui de haut le même ^{sur lequel est placée l'assise} ^{derrière} à dr. d'un homme debout & avec une longue canne.



Fig. 7: From top to bottom: ČN 120, 77 (nos 114-115); 61 (no. 28); 64 (no. 40) (courtesy of the Griffith Institute)

The scene also shows other servants carrying various items, such as a lion-shaped angle back rest (probably a *imyt-r gsst* bed), and a stick with a rounded end (possibly a *imyt-r* staff).⁵⁸ Below them, two registers depict courtiers sitting on the floor. There is evidence of their names and titles, as the upper register, from right to left, records a *smr w^cty hry-hb wr [ms3 (?)]*, ‘sole companion, lector priest and great [of seers (?)]’, called *[illegible]*, ‘[I[...]]’. If the lacuna at the end of the titles is a reference to a ‘high priest of Heliopolis’ (although it could also be part of a personal name), then it seems likely that this individual probably would have been someone other than Izezi-[...], a ‘great of seers’ depicted in a separate relief recorded both by Černý and Labrousse and Moussa.⁵⁹ The following individual is *smr w^cty šsm-[pt]h* ‘sole companion Seshem-[ptah]’, who was not documented elsewhere in the causeway. Finally, at the

end of that register, there is another anonymous official holding the offices , *s[mr wʿty (?) hrp ʿh* ‘sole companion and director of the palace’.

It is curious that the procession does not face the king, who is represented seated at the right end of the block no. 114, looking to the right like the servants who follow him. Behind the king, *la reine, à une échelle plus petite, qssise par terre* was also depicted. She is referred to as , *hm[t] [ny-sw] mrt=f*, ‘the [royal] wife, his beloved one’. Unfortunately, her name, if ever written, was not preserved when Černý took his notes and, therefore, it is impossible to determine if it depicts Nebet, Khenut or another unattested queen.⁶⁰

The meaning of the complete scene remains unknown, although objects depicted in this sort of procession could form part of the royal funerary equipment as suggested by Čwiek in relation to similar scenes in other mortuary temples.⁶¹ They could also relate to other divine or more mundane scenes previously unknown relating to rewarding scenes or to representations of royal inspections of workshops and/or magazines.

Blocks, no. 28 and no. 40, (Fig. 7), which are probably part of other scenes, also depict royal furnishings. Relief no. 40, included as part of the Upper Temple decoration⁶² since it is kept in a magazine along with other materials from that structure, possibly came from the causeway as Černý's notes suggest. Apparently, both reliefs included the figure of a low chair or stool. Černý identified this seat in no. 40 as *le trône sepa* but this attribution is difficult to prove since seats in both reliefs do not seem to have the usual stepped shape of a carrying chair. In relief no. 28 the seat was depicted in front of a row of bowing officials, which clearly relates to kingship.⁶³ The throne in block no. 40 is depicted as part of different furnishings, being placed above another object, perhaps a rolled mat. These objects are in front of a column of text which separates them from an official holding a lily-shaped fan.

Staying with furnishings and transportation, block no. 29 can also be included. Černý described it laconically as *roi dans un palanquin porté par des serviteurs*.⁶⁴ This relief would thus be the first known depiction of a king on a carrying chair in a royal mortuary complex, a scene which has been attested previously in private mastabas⁶⁵ and in Niuserre's sun temple.⁶⁶

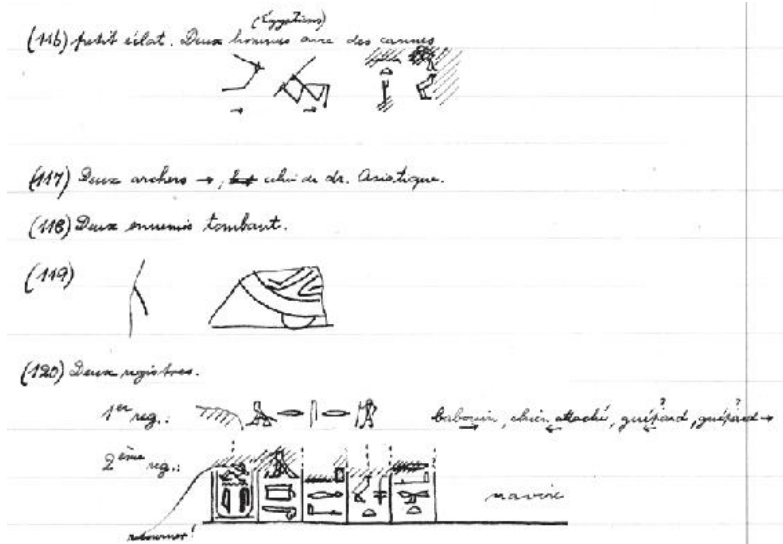


Fig. 8: ČN 120, 78 (nos 116–120) (courtesy of the Griffith Institute)

5. A stick-fighting scene (no. 116) (Fig. 8)

Block no. 116⁶⁷ is also of great significance since it is a rare example in Unas' causeway of martial contest scenes; there is also one questionable example,⁶⁸ and a wrestling child scene recently published by Harpur.⁶⁹ It represents two Egyptian men fighting with sticks. Martial competitions are also displayed in the new reliefs from the mortuary complex of Sahure where the captions, at least in one instance, seem to describe the movements of the sticks, as René van Walsem has suggested.⁷⁰ Unfortunately, the text recorded by Černý, which is extremely fragmentary, does not provide any clue for a tentative interpretation in that direction.



Fig. 9: *The shaded area marks the possible location of ČN 120, 78 (no. 119) (courtesy of the Griffith Institute) on a siege scene taking as a model the scene from Inti's tomb at Deshasha (Kanawati and McFarlane, Deshashah, pl. 27)*

6. A siege scene (?) (no. 119) (Fig. 8, Fig. 9)

The last two reliefs registered in the notes suggest the existence of scenes with historical content. The first one, block no. 119, may belong with nos 117 and 118, described respectively as *deux archers à ///* [few letters cancelled] *celui de dr. Asiatique*, and *Deux ennemis tombant* (Fig. 8).⁷¹ These scenes, currently lost, most likely relate to well-known reliefs from this causeway. They depict a battle between Egyptians and Asiatics which was also depicted in Userkaf's mortuary temple.⁷²

These military scenes may also be linked to an unprecedented siege scene in a royal mortuary complex similar to the ones documented in private tombs like the mastaba of Kaiemheset at Giza, dated to the reigns of Niuserre and/or Izezi,⁷³ or particularly to the tomb of Inti at Deshasha, dated to the beginning of the sixth dynasty.⁷⁴ This idea is indeed supported – admittedly on very weak grounds – by the intriguing fragment no. 119 which could represent part of a defensive wall with a rounded tower and part of a kneeling person and which would be very similar to a section of the relief at Deshasha (Fig. 9).⁷⁵ The presence of this subject in monuments of different social groups is not exclusive to the Old Kingdom. During the Middle Kingdom, battle and siege scenes were also depicted both in private tombs⁷⁶ and in contemporary royal mortuary complexes such as that of Mentuhotep II at Deir el-Bahari⁷⁷ or possibly in those of Senwosret I at Lisht and Senwosret III at Dahshur.⁷⁸

If correct, this identification would certainly be of great significance in offering the earliest example of a siege scene in the iconographic program of a mortuary royal complex. At present, as with the depictions of combat, the origins or inspirations of this kind of representation cannot be specified.⁷⁹ Main subjects may be inspired by recent or famous events while anecdotes and minor details would be rooted in anachronistic or Egyptian-based conventions alien to Asian realities. Such is the case, for example, of the semicircular bastions depicted in the fortress under siege in Inti's tomb and in Unas' causeway. These seem to have been taken from Egyptian siege practices (as late Old Kingdom walls in Ain Asyl and Elephantine),⁸⁰ not in contemporary fortifications from Palestine or Syria, where bastions were built in a square shape almost five centuries before.⁸¹

This relief could also be useful in order to ascertain possible developments and similar traits in scenes during the Old Kingdom both in royal and private contexts. It could be used to identify interactions among both artistic

spheres, as has happened with other subjects depicted in Unas' causeway. Many of them have close counterparts in contemporary private mastabas recalling possible artistic and thematic emulations. In this regard, aside from scenes directly relating to royalty, repertoires of everyday activities are practically the same in both royal mortuary causeways and in private tombs, except for very specific – and apparently extremely privileged – activities such as beekeeping (attested indirectly in Unas' causeway) or pelican raising documented in Niuserre's *Weltkammer*.⁸²

Whether these daily life scenes had a royal or a private origin is impossible to know; however a royal origin with subsequent diffusion among the elite seems more natural. Iconographic programs in fourth dynasty royal complexes are poorly documented but, apparently, they were also quite scarce and omitted subjects relating to activities in the real world.⁸³ This pattern seems to change around the beginning of the fifth dynasty when these new themes gradually enriched the decorative repertoires of royal mortuary complexes. An increase of decorated surfaces, due to the presence of long causeways both in Sahure's and Unas' mortuary complexes, may in fact have helped induce a wider adoption of originally private motifs by the artists of the pharaoh, which in turn could influence the re-shaping of private scenes. Nevertheless, it seems both royal and private spheres were responsible for embedding these everyday subjects in different functional contexts. Daily life scenes in private tombs were essential in their decorative programs. However same motifs were, apparently, less common in royal complexes. Many of them were only included in compositions with similar aims to Niuserre's *Weltkammer* reliefs (hunting, grazing, or agricultural scenes). Others, such as market and workshop scenes, seem to be attested in royal causeways complexes though their iconographic and iconological contexts and aims remain just as problematic.⁸⁴

7. A possible arrival of a naval expedition from a foreign country (no. 120) (Fig. 8).

Block no. 120 is, like no. 119, a scene of great interest not only because of the data that it provides but also because of the ideas it suggests.⁸⁵ The block bears two registers. The lower one includes a reference to an 'overseer of the nobles' (*imy-r sr-w*), which would have been perhaps connected to a currently lost figure. This is followed by depictions of different animals orientated in different directions, such as a baboon, a tied dog and, finally, two felines that Černý identified indecisively as cheetahs. The upper register includes a ship (*navire*) connected to five fragmentary columns of text arranged in strange positions because of their changing orientation (for a similar arrangement see no. 81, Fig. 3). Signs permit a very partial reading

here interpreted from right to left: 1) '[...] Unas'; 2) '[...] previously'; 3) '[...] this [...] greatly (?)'; 4) 'but/therefore (?)'; 5) 'very greatly'.⁸⁶

However, despite its laconic and incomplete nature, the block could relate to the arrival of an Egyptian naval expedition from a distant region due to the presence of exotic fauna in apparent connection with a ship that, unfortunately, Černý neither described nor sketched.⁸⁷ Of course, representations of animals such as baboons, felines or dogs do not necessarily imply that all of the scenes were related to trade with exotic lands. Monkeys and dogs, for example, are attested in very different kinds of scenes in private tombs, some of which did relate to ships.⁸⁸ However, aside from hunting scenes, felines, as actual living animals, were seldom depicted.⁸⁹ The logic behind hypothesizing a travel scene stems from the combination of the remains of the inscription, including the words 'greatly' or 'before' which seem to indicate the presence of a text mentioning a relevant and unprecedented achievement, alongside the presence of exotic animals similar to the monkeys and dogs depicted in those blocks recently discovered in the causeway of Sahure which show a successful return of Egyptian boats from Punt.⁹⁰ Furthermore, naval expeditions and products from foreign countries were not rare in the iconographic repertoires of royal complexes. Sahure's temple was also decorated with scenes showing foreign goods and ships coming from Asia. In fact, Unas' causeway itself also included a very similar representation depicting vessels with submissive Asiatics.

Similarly to the scenes depicting vessels transporting building materials to the royal pyramid complex, these reliefs could also be linked to various 'historical' texts which came from the corridor and mention offices related to expeditions such as an 'overseer of the expedition/army' (*ḥtm-w nṯr*) (*imy-r mšꜥ*), 'seal-bearers/treasurers of the god' (*ḥtm-w nṯr*) and, possibly, foreign toponyms.⁹¹

Indeed there are previous and later parallels in other mortuary complexes for these texts. For instance, an inscription from Sahure's causeway mentions an expedition to a foreign region, possibly the Egyptian Eastern Desert or the Sinai,⁹² or another text, possibly of Middle Kingdom date, found on a reused block from the pyramid of Amenemhat I at Lisht.⁹³ Since information on iconographic programs in mortuary complexes is extremely fragmentary and remains of these inscriptions are scarce, it is impossible to know if these 'narratives' have to be taken as elaborate captions or complementary information to the depictions, or almost, if not fully, independent accounts not necessarily attached to any precise scene. In one case at least, some of these texts are clearly related to the scene of river transport of architectural elements (see section 1 above).⁹⁴

Any possible option permits a wide range of interpretative models and we must be cautious about offering absolute solutions. In any case, historical/

narrative or not, or relating to depictions or completely independent, these kinds of text describe royal deeds. Alongside the rest of the decoration of royal complexes, they mirror expected archetypes of kingship—and kingdom—by means of either actual or ideal facts.⁹⁵ In contrast, the fragmentary state of these inscriptions does not allow for a sufficient comparison with other contemporary parallels such as the royal annals (the original emplacement and function of which cannot be stated assuredly). It is not possible, therefore, to clarify precisely their role in the creation, function, development and definition of contemporary and later royal narratives.

Conclusion

To summarise, this new data, collected from the blocks recorded in Černý's notes, appears to confirm certain thematic similarities amongst the iconographic programmes of the pyramid causeways of Sahure's and Unas' mortuary complexes. The existence in Unas' corridor of 'narrative' and/or 'historical' texts, of scenes depicting the transport of the *benbenet*, fights with sticks, the transport of furnishings or even the possible arrival of an expedition to a foreign country can all be linked to the newly discovered reliefs in Sahure's causeway. Hence, this leads to the suggestion of the existence of relatively well-defined iconographic repertoires ascribed to that part of the royal mortuary complexes, certainly at least within the fifth dynasty.

However, as I have suggested in a previous study,⁹⁶ it cannot be disputed that iconographic subjects could change in every funerary complex according to different needs and/or preferences. Apart from some precise subjects (such as those on the walls of the cultic chambers), many themes could be added, suppressed or placed in different rooms according to many different circumstances such as the quantity of wall surfaces to be carved or the general arrangement of the decoration, and so on. In fact, in Unas' causeway the scenes attached closely to royal activities and ideology were related to non-royal subjects such as daily life activities taken from private tomb repertoires, workshops, agricultural activities and combats – and possibly a siege. These original scenes, presently unattested in Sahure's complex, suggest the existence of iconographical differences and innovations among different royal complexes. On the other hand, parallels between iconographic programmes in Sahure's and Unas' causeways point to the existence of processes of artistic and literary emulation and tradition in the iconography of royal mortuary complexes, and, consequently, to the debatable reliability of these scenes as historic sources on their own. The so-called 'Lybian family' or the return of ships with Asian personnel are well-known examples.⁹⁷

Finally, I hope this paper will also serve to reappraise earlier work by an

eminent scholar which hopefully can now be used as a valuable resource to improve our understanding of Old Kingdom art. First-hand notes by Černý, written a few years after the discovery of the blocks, when they were still visible and well preserved, underline once again the relevance of old records and archives, frequently neglected or underrated by scholars as essential sources for current Egyptological research. In essence, every future study on the reliefs of the causeway of Unas should consider the collation of originals with these notes – and those made by other scholars – so as to have a more complete, contrastable point of reference and hence more reliable data from which to work.

Appendix I

Concordances between Černý's notebook and Labrousse & Moussa publication (dark grey-shaded docs indicate differences between Čn 121 and L&M copies; light grey-shaded doc. indicate Grdseloff copies). Current descriptions do not follow Černý's words literally. Arrows indicate main direction of the figures and/or hieroglyphic texts (inverse to reading direction) depicted in the scenes.

Abbreviations:

L&M: Labrousse and Moussa, *Chaussée*

TH: Labrousse, Lauer and Leclant, *Mission archéologique de Saqqarah II. Le temple haut du complexe funéraire du roi Ounas*

Domaines: Jacquet-Gordon, *Les noms des domaines funéraires*

Page	No	Brief Description	Observations (related to Ceramiusensis)	LeAM equivalents	PM MF
	1	Two registers with bowing soldiers (<i>hotteliers</i>) (↔)		–	419
	2	Small block with two registers containing some administrative titles (→)		–	419
56	3	Goose inside a hexagonal trap			419
	4	Three registers with bowing officials (↔)		Doc. 68i	419
	5	A register with bowing soldiers (→)		Doc. 73i	419
	6	A register with bowing officials (→)		–	419
	7	A register divided in two sections (← →) of bowing soldiers (<i>hotteliers</i>)		Doc. 82i	419
57	8	Small block with remains of human figures and personal names (→)			419
	9	Three registers. Two of them with bowing and seated officials (→)		Doc. 58	419
	10	A register divided in two sections (← →) with bowing officials		Doc. 69	419
	11	Relief with two registers, one of them with emaciated people (→)		Doc. 93	420
	12	Small block with remains of an administrative title (→)			419
	13	Small block with man holding a bird (←)		–	419
58	14	Ship and remains, in an upper register, of an inscription		–	–
	15	Two registers with remains of figures and titles of officials (→)		–	419
	16	A register with bowing officials (→)		–	419
	17	A register with remains of figures and titles of officials (→)			419
	18	A register with bowing officials (←)		–	419
59	19	A leather craftsman (→)		Doc. 26	420
	20	Small relief with market scene		Doc. 73	419
59–60	21	Market and metal working scenes	Five joining blocks	Docs 22a–b + 27a–b	419
	22	Ships bringing Asiaties in adoration pose (→)		Doc. 15	418
60	23	Two registers divided in two sections (← →) with bowing human figures	Two joining blocks	Doc. 65	419
	24	A register with ships bringing columns from Elephantine (→)		Doc. 18 a–b	418
60a	–	Inked graffiti on a re-used column (→)		–	–
	25	Three registers including ships bringing columns from Elephantine and titles of officials (→)		Doc. 17	418
	26–27	Two small blocks with remains of ships		Dots 137/20f	–
61	28	Register with bowing officials in front of an empty low wooden chair (→)		–	419
	29	King on a carrying chair supported by some officials (→)		–	–
	30	Block with eight columns of text (→)		Doc. 16	418
	31	Two registers with two facing (↔) groups of bowing officials		Doc. 80	419
62	32	Two registers depicting a birds among Egyptians and Asiaties		Doc. 5	418
	33	A register with 32 bowing officials (→)	Four joining blocks	Doc. 63 a–d	419
62a	33a	Small block with remains of human figures and titles of officials (↔)			419
	34	A register with bowing officials (←)		–	419
64	35	A register with two confronted (→ ←) groups of bowing officials. Both separated by a column of text (←)		Doc. 100	419

63	36	Two registers with remains of officials or soldiers (C)		Doc. 71 b	419
	37	A register with bowing officials and soldiers (←)	Five joining blocks	Doc. 71 a + x; Doc. 72 g-c	419
	38	Two registers: the lower one with praising officials (←)		Doc. 92	419
	39	Two register with remains of a divine figure and an inscription mentioning Anubis (→)	According to L&M it could come from the pyramid temple. Possible omission of Černý (<i>ad</i>)	Doc. 1282 + T11 Doc. 56?	419
64	40	A register depicting royal furniture (a chair) and an official (←) carrying a fan. Both separated by a column of text (←)	According to L&M it could come from the pyramid temple	Doc. 127	419
	41	Two registers divided in two sections (← →) with bowing officials or soldiers	Three joining small blocks	Doc. 70	419
	42	A register with bowing officials or soldiers (→)		–	419
	43	A register with bowing officials or soldiers (←)		–	419
	44	Two registers with a man carrying birds (→), some dogs and a hare	Block re-used as sarcophagus	Doc. 34	419
	45	Register with lying down officials (→)		Doc. 60	419
	46	Two registers with lying down officials and titles (→)		Doc. 59	419
	47	Three registers with desert animals and hunter	Two superimposed blocks	Doc. 42 + 37	419
	48	Register with gazelle and other animals		–	419
	49	Small block with remains of a crouched hunter and animal			419
	50	Two registers with desert animals and hunter		Doc. 41	419
	51	Two registers with goats and remains of inscriptions	Some omissions and additions by Černý	Doc. 561	419
65	52	Two registers with bowing and lying down officials (→)		Doc. 61	419
	53	Two registers with officials or soldiers (→)			419
	54	Register with legs of four officials with staffs (→)		Doc. 84	419
	55	Legs of two animals (C)		–	419
	56	Small block with head of two hawks (C)		–	419
	57	Two registers with seated scribes and officials (←)	Some omissions by Černý	Doc. 74	419
	58	Two registers with <i>Wishnu</i> scenes	Apparently Černý did not realise that both blocks join	Doc. 29 a d	419
	59	Sub-register with trees and desert animals		Doc. 29 e	419
66	60	Three registers with <i>Wishnu</i> scenes	Two joining blocks	Doc. 29 a-b	419
	61	Three registers with <i>Wishnu</i> scenes		Doc. 30	419
	62	Register with bowing soldiers (<i>barbettes</i>) (←)		–	419
	63	Register with procession of funerary estates (→)		Doc. 115	418
	64	Two registers with desert animals and remains of a hunter		Doc. 38	419
	65	Three registers: the lower ones with bowing officials: The upper one with procession of divinities (C)	Some omissions by Černý	Doc. 88	419
67	66	Two registers with desert animals and hunter (→) with lasso		Doc. 44	419
	67	Standing figure of the king with column of text mentioning the transportation of a pyramidion (C)		–	419
67–68	68	Two registers: the lower one with two confronted (→ C), groups of bowing officials: The upper one with remains of a royal throne pyramidion		Doc. 62	419

69	Two registers the lower one with bowing officials (→) and the upper one with food offerings		Doc. 87	419
70	Two registers with desert animals and hunters with fowling		Doc. 40 a-b	419
71	Three registers with oxes	Two superimposed blocks	Doc. 53 a-b?	419
68 72	Two registers with desert animals hunted by dogs	Two superimposed blocks	?	419
73	Register with animals		Doc. 311	419
74	Three registers with desert animals hunted by dogs		?	419
75	Two registers with desert animals		?	419
76	Two registers of a scene of men conducting goats (←)		Doc. 55 a-c	419
68 77	Register with a scribal scene		Doc. 75	419
78	Two registers with desert animals		?	419
79	Two registers of a scene of men conducting animals (←)		-	419
80	Register with soldiers or sailors (→)		Doc. 14	419
69 81	Block with seven columns of hieroglyphic text (→)		Doc. 122	419
82	Two registers of bowing officials related to a column of hieroglyphic text (→)		Doc. 77	419
83	Block with seven columns of hieroglyphic text (→←)		Doc. 12	419
84	Register with men conducting gretles (→)	Three joining blocks	Doc. 50 a-c?	419
85	Two registers divided in two sections (← →) with bowing officials related to two columns of hieroglyphic text		Doc. 66	419
70 86	Block with eight columns of hieroglyphic text (→)		Doc. 123	419
87	Register with procession of funerary estates (→)	Two joining blocks	Doc. 117 a-b	418
88	Small block with bowing soldiers (barriers) (→)		?	419
89	Block with ten columns of hieroglyphic text (→) related to a bowing official (←)		Doc. 124	419
71 90	Two registers with procession of funerary estates (→)		Doc. 111	418
91	Register with procession of funerary estates (←)		Doc. 98	418
92	Two registers with procession of funerary estates (→)		Doc. 116	418
93	Two registers with procession of funerary estates (→)		Doc. 108	418
72 94	Register with procession of funerary estates (→)		Doc. 121	418
95	Register with procession of funerary estates (→)		Doc. 107	418
73 96	Two registers with procession of divinities and fecundity figures (→) and a representation of a royal throne plinth (←)		Doc. 91	419
97	Two registers with procession of funerary estates (→)		Doc. 110	418
73a	Remains of scene with winged sun disc	Block re-used as sarcophagus		
74-74a 98	Two registers with procession of divinities (→)	Block re-used as sarcophagus	Docs 104 + 105 a-d	419
99	Register with procession of funerary estates (→)		TH Doc. 67	418
100	Two registers with procession of funerary estates (→)		Doc. 118	418
74 101	Register with procession of divinities (→)		Doc. 101/106i	419
102	Register with procession of divinities (→)		Doc. 101/106i	419
103	Register with procession of funerary estates (→)	Block re-used as column	<i>Dumehis</i> , 62-66	418
104	Register with procession of funerary estates (→)		Doc. 120	418
75 105	Two registers with procession of funerary estates (→)		Doc. 109	418
106	Two registers with procession of funerary estates (→)		Doc. 114	418
75-75a 107	Two registers with divinities and procession of funerary estates (→)	Two joining blocks	Doc. 103 a-b	418

108	Two registers with procession of funerary estates (3)	Doc. 119	418
109	Two registers with procession of funerary estates (6)	Doc. 99	418
76	Two registers One of them with procession of funerary estates (3)	Doc. 112	418
111	Register with man bringing a gazelle (?) (3)	Doc. 51	419
112	Small block with offering listings (4)	—	419
113	Two register with praising officials (3)	—	419
77	Three registers The lower ones with seated officials and the upper one with officials carrying furnishings All of them behind a figure of the king on the throne accompanied by a royal wife (3)	—	419
115	Register with officials carrying furnishings (3)	—	419
116	Register with two men fighting with canes (3)	—	418
117	Register with two archers (3) One of them being Asiatic	—	418
78	Register with two ammenisoubau	—	418
119	Possible stage scene	—	419
120	Two registers with remains of a ship, an inscription and erotic animals	—	419
103	(1) See no 24	Doc. 18b	—
	(2) See no 24	Doc. 18a	—
	(3) See no 67	—	—
	(1) Small block with remains of four columns (?) of hieroglyphic text	—	—
	(2) See no 89	Doc. 124	—
104	(3) See no 86	Doc. 123	—
	(4) See no 30	Doc. 16	—
	(5) See no 81	Doc. 122	—
	(6) See no 83	Doc. 17	—
104	(4) See no 30	Doc. 16	—
	— Hieroglyphic inscription mentioning granite constructive elements for Unas' pyramid	Doc. 192	—

Appendix II. Personal names and titles

a) List including personal names of individuals not recorded in Labrousse and Moussa, Chaussée

Name	CN 120	Révisé, PN	Titre	Other observations
	56, no. 5	—	—	Partially recorded in L&M doc 73
	56, no. 5	—	—	Not recorded in L&M doc 73
	56, no. 6	—		Unpublished
	60a	—		Unpublished
	56, no. 6	I, 333, 9	—	Unpublished
	57, no. 8	—	—	Unpublished
	57, no. 8	I, 400, 23 (<i>dit</i>)	—	Unpublished
	57, no. 9	—	—	Not recorded in L&M doc 58. It could be a caption, not a name

	57, no. 10	T. 392, 10	—	Partially recorded in L&M doc 69
	58, no. 13	T. 45, 21	—	Unpublished
	58, no. 18	T. 141, 5 (<i>perhaps</i>); 344, 27 (<i>idem</i>)	—	Unpublished
	58, no. 18	T. 239, 47	—	Unpublished
	58, no. 18	—	—	Unpublished
	60, no. 23	T. 36, 13	—	Not recorded in L&M doc 69
	65, no. 57	T. 967, 1 (<i>perhaps</i>); 966, 22 (<i>idem</i>)	—	Recorded differently in L&M doc 74
	60, no. 21	—		Unpublished graffiti carved in L&M doc 27b
	62, no. 33	—	—	Not recorded in L&M doc 63a-d
	62, no. 34	1, 200, 4; 320, 17	—	Unpublished
	62, no. 33	—	—	Not recorded in L&M doc 63a-d
	62, no. 34	1, 200, 7	—	Unpublished
	62, no. 35	T. 239, 24	—	Not recorded in L&M doc 100
	62, no. 35	—	—	Not recorded in L&M doc 100
	67, no. 68	—		Title not recorded in L&M doc 62
	67, no. 68	—		Title not recorded in L&M doc 62
	67, no. 68	—		Name not recorded in L&M doc 62
	77, no. 112	—	—	Unpublished
	77, no. 114	—		Unpublished
	77, no. 114	—		Unpublished
	77, no. 115	—	—	Unpublished
	77, no. 115	—	—	Unpublished
	68, no. 69	—		Dubious name. Lost in L&M doc 87

b). List including administrative titles and epithets of individuals not in Labrousse and Moussa, Chaussée

Title	Jones, Index	CN 129	Name	Other observations
	229 (no. 849)	55, no. 2	—	Unpublished (mentioned one or two times)
	281 (no. 1012)	78, no. 129	—	Unpublished
	924-925 (no. 3401)	55, no. 4	—	Lost in L&M doc. 68
	329 (no. 1211)	55, no. 4	—	Lost in L&M doc. 68 (repeated twice)
	Not attested	79, no. 85	—	L&M doc. 68 just records two attestations (it is repeated three times)
	949 (no. 3503)	55, no. 4	—	Lost in L&M doc. 68 (repeated twice)
	285 (no. 1032)	79, no. 85	—	L&M doc. 68 just records two attestations (it is repeated three times)
		55, no. 4	—	Partially lost in L&M doc. 66
			—	Partially lost in L&M doc. 68

	936 (no. 3416)	56, no. 4 69, no. 82	—	Lost in L&M doc. 68 (repeated three times) L&M doc. 77 just records one attestation repeated twice
	Not attested (for a similar title, see 968, no. 3573)	77, no. 113	—	Unpublished
	692–693 (no. 2532) + 991 (no. 3565)	58, no. 11 60, no. 23	—	Partially lost in L&M doc. 93 (title incomplete) Partially lost in L&M doc. 65 (repeated three times)
	781 (no. 2848)	58, no. 15 77, no. 113 77, no. 114	—	Unpublished Repeated three times Unpublished Repeated at least twice Unpublished
	899 (no. 3301) (<i>answ</i> <i>wpb</i>)	58, no. 16	—	Unpublished
	327 (no. 1206) (<i>try-pt</i> <i>ny-wet</i>)	58, no. 16	—	Unpublished
	855 (no. 3117) (<i>my-r</i> <i>che mrt</i>)	58, no. 17	—	Unpublished
	—	58, no. 17	—	Unpublished
	892 (no. 3268)	60a		Unpublished
	998 (no. 3710)	60, no. 21		Unpublished graffiti carved in L&M doc. 27b
	692–693 (no. 2532)	60, no. 23	—	Partially lost in L&M doc. 65 (repeated twice)
	995 (no. 3578)	58, no. 12 60, no. 23	—	Unpublished (title incomplete) Partially lost in L&M doc. 65 (title incomplete)
	892–893 (no. 3263)	62a, no. 35a 77, no. 114	—	Unpublished Unpublished
	707 (no. 2579)	62a, no. 33a 77, no. 114	—	Unpublished Unpublished
	788 (no. 2874)	63, no. 37 67, no. 68	—	Partially lost in L&M doc. 72a c Lost in L&M doc. 62
	968 (no. 3572) (<i>wpb</i> <i>Amw</i>) ¹	65, no. 53	—	Unpublished
	—	65, no. 53	—	Unpublished
	261 (no. 945) (<i>my-r</i> <i>kt nbt</i>)	67, no. 68		Partially lost in L&M doc. 62
	261 (no. 945) (<i>my-r</i> <i>kt nbt</i>)	67, no. 68		Lost in L&M doc. 62
	496 (no. 1858)	68, no. 69		Lost in L&M doc. 87
	—	60a		Unpublished
	—	68, no. 69		Partially lost in L&M doc. 87
	891–892 (no. 3263)	77, no. 114		Unpublished
	—	77, no. 114		Unpublished
	—	77, no. 114	—	Unpublished Attested one or two times
	464 (no. 1732)	68, no. 69	—	Misread in L&M doc. 87 as
	Not attested (for a similar title see 928, no. 3415)	77, no. 113	—	Unpublished (repeated four or five times)
	386 (no. 1428) (<i>wr</i> <i>mt</i>)	77, no. 114		Unpublished

¹ I am grateful to the Griffith Institute, and particularly to the Keeper of the Archive, Jaromir Málek, for permission to study and publish the notes, as well as to Alison Hobby for assistance. I am also indebted to Yvonne Harpur for encouragement and for information on the Unas causeway blocks and on unpublished material discovered by the Saqqara EES-Leiden expedition. Finally, I am indebted to Mark Hunter and the editors for improving my English. Of course, any opinion or ideas rest with the author. Reproductions of Černý's notes have been altered slightly so as to omit words or images not directly related to the reliefs or details being studied. Research on these notes was made possible by a research grant (P.I.E. no. 200810I104) from the Spanish Ministry on Science and Innovation (MICINN) and the Spanish Supreme Council of Scientific Research (CSIC).

² For recent biographical data on Jaroslav Černý, see J. Malek, 'Life and

Achievements of Czech Egyptologist Jaroslav Černý (1898–1970)', *ArOr* 66 (1998), 27–30; and P. Onderka, 'Československý egyptolog Jaroslav Černý = Czechoslovak Egyptologist Jaroslav Černý', in J. Mynářová and P. Ordenka (eds), *Théby: Město bohů a faraonů = Thebes: City of Gods and Pharaohs*, Prague 2007, 14–19.

³ What I mean by 'reliefs' or 'blocks', in relation to Černý's notes, is that they are scenes either from single blocks or from several matching among them.

⁴ For an overview of the archaeological interventions related to the causeway see A. Labrousse and A. Moussa, *La chaussée du complexe funéraire du roi Ounas* (BdE 134; Cairo 2002), 1–3. An important group of blocks re-used as building material has been found by the Dutch-English mission in the New Kingdom tombs at the south of the causeway, see Y. Harpur, 'Old Kingdom Blocks from the Tomb of Horemheb', in H. D. Schneider, *The Memphite Tomb of Horemheb. Commander-in-Chief of Tut'ankhamûn. II. A Catalogue of the Finds* (EES EM 60; London-Leuven 1996), 81–90; id., 'Re-used Blocks in the Eighteenth Dynasty Tomb of Maya at Saqqara: A preview of Nine Reliefs from an Unpublished Corpus', in D. Magee, J. Bourriau and S. Quirke (eds), *Sitting beside Lepsius. Studies in Honour of Jaromir Malek at the Griffith Institute* (OLA 185; Leuven 2009), 203–227. The same author is currently preparing the publication of other blocks from the tomb of Maya. On other materials possibly from Unas' mortuary complex, see P. Jánosi, 'Reliefierte Kalksteinblöcke aus dem Tempel der 12. Dynastie bei 'Ezbet Rushdi el-Saghira (Tell el-Dab'a)', *Ä&L* 8 (1998), 51–80, particularly, blocks nos 4 (could *wnii/wny* be a misspelling or hypocoristic of *wnis* ?), and 5; H. Goedicke, *Re-used Blocks from the Pyramid of Amenemhet I at Lisht* (PMMA 20; New York 1971), 24–26 (no. 8); 59–74 (nos 31–42; the last one currently ascribed to Userkaf); 78 (no. 44); 86–94 (nos 49–52); 97–100 (no 55).

⁵ While Černý's numeration increases, it appears that C. U. numbers decrease suggesting a roughly inverse order in numbering criteria.

⁶ In one case (no. 24), the block is marked with a double tick or, perhaps with a W in the right margin of the page. For other double tick examples see [Fig. 4](#) (nos [2]–[4]).

⁷ In ČN 120, 61 (no. 30) a pencil annotation by Černý refers to the collation of an inscription copied by Grdseloff which fits perfectly with the copy of the same text recorded on the loose leaf.

⁸ PM III² 418–420.

⁹ See H. K. Jacquet-Gordon, *Les noms des domaines funéraires sous l'ancien empire égyptien* (BdE 34; Cairo 1962), 168–182. JacquetGordon's data on the funerary domains depicted on the Unas causeway is fuller than Černý's notes. I am very grateful to H. Jacquet for providing me with information on the current whereabouts of notes and journals at her

disposal.

¹⁰ See Labrousse and Moussa, *Chaussée*, 30, n. 114.

¹¹ Iconographic repertoires from causeways appear to be different from the decorative programmes of the upper and lower temples of the royal mortuary complexes. For recent general overviews on these corridors see, for example, R. Klemm, D. D. Klemm and A. Murr, 'Zur Lage und Funktion von Hafenanlagen an den Pyramiden des Alten Reiches', *SAK* 26 (1998), 173–189; D. Stockfisch, *Untersuchungen zum Totenkult des ägyptischen Königs im Alten Reich. Die Dekoration der königlichen Totenkultanlagen. Band 1* (Antiquitates, Archäologische Forschungsergebnisse 25; Hamburg 2003), 46–47, 65–67, 389; A. Ćwiek, *Relief Decoration in the Royal Funerary Complexes of the Old Kingdom. Studies in the Development, Scene Content and Iconography*, unpublished PhD Diss., Warsaw, 2003, 302–303; C. Reader, 'On Pyramid Causeways', *JEA* 90 (2004), 63–71.

¹² See, for example, Labrousse and Moussa, *Chaussée*, 175, fig. 117 (doc. 93).

¹³ Labrousse and Moussa, *Chaussée*, 145, fig. 40 (doc. 26). This scene is not recorded by S. Schwarz, *Altägyptisches Lederhandwerk* (Europäische Hochschulschriften 28; Frankfurt 2000), 334–347.

¹⁴ ČN 120, 66, nos 58 and 60 = Labrousse and Moussa, *Chaussée*, 147, figs 42–43 (docs 28a–b ; 29a–e). Data recorded by Černý offer tiny improvements in the reading clarity of captions in the extreme left scenes (doc. 29a–e):  and  in the upper scene, as well as  in the lower scene.

¹⁵ According to E. Drioton, 'Une représentation de la famine sur un bas-relief égyptien de la V^e dynastie', *BIE* 25 (1942–43), 50, *leur nombre est actuellement d'environ quatre cents, et il s'accôtra avec la continuation des travaux*.

¹⁶ For joins observed by Černý see Appendix I (nos 37, 47, and 98).

¹⁷ For inaccuracies and omissions, compare, for instance, ČN 120, 61 (no. 31), which records the office *[shd] pr-r3* instead of *[shd] pr-r3*, according to the information and drawings of Labrousse and Moussa, *Chaussée*, 79, 170, fig. 109 (doc. 89). Something similar happens in ČN 120, 62 (no. 35), where Černý reads  instead of , see Labrousse and Moussa, *Chaussée*, 93, 182, fig. 132 (doc. 100). ČN 120, 67 (no. 65), does not record the incomplete name  documented in Labrousse and Moussa, *Chaussée*, 78, 170, fig. 108 (doc. 88), and pl. XVI a.

¹⁸ ČN 120, 61 (no. 30); 70 (nos 85–86). See Labrousse and Moussa, *Chaussée*, 140, fig. 28 (doc. 16); 164, fig. 86 (doc. 66); 196, fig. 162 (doc. 123), respectively. On block no. 30, see A. D. Espinel, 'Around the Columns: Analysis of a Relief from the Causeway of Unis Mortuary Temple', *BIFAO* 107 (2007), 97–108.

¹⁹ ČN 120, 69 (nos 81 and 83); 71 (no. 89). See respectively, Labrousse and Moussa, *Chaussée*, 196, fig. 161 (doc. 122); 139, fig. 24 (doc. 12); 196, fig. 163 (doc. 124).

²⁰ A. Roccati, *La littérature historique sous l'Ancien Empire Égyptien* (LAPO 11; Paris 1982), 131–133 (§§ 102–104) = ČN 120, 61 (no. 30); 69 (no. 81); 70 (no. 86); 69 (no. 83) respectively.

²¹ ČN 120, 56 (no. 2); 78 (no. 120) (for the latter one see [fig. 8](#)). For the title see D. Jones, *An Index of Ancient Egyptian Titles, Epithets and Phrases of the Old Kingdom* (BAR IS 866 I–II; Oxford 2000), 229–230 (no. 849).

²² ČN 120, 58 (no. 16). For this title and the term *wḥrt*, see Jones, *Index*, 899 (no. 3301); N. Düring, *Materialien zum Schibau im Alten Ägypten* (ADAIK 11; Berlin 1995), 186–195.

²³ ČN 120, 77 (no. 113).

²⁴ ČN 120, 58 (no. 17), *hry-ḥb nbḥb[...]* (?) (Jones, *Index*, 853 (no. 3117)), is also documented in ČN 120, 63 (no. 37, *bloc* 4) = Labrousse and Moussa, *Chaussée*, 166, fig. 92 (doc. 72a–c). Concerning the *mrt* workers see, for example, J. C. Moreno García, ‘La population *mrt*: une approche du problème de la servitude dans l’Égypte du III^e millénaire’, *JEA* 84 (1998), 71–83; P. Andrásy, ‘Die *mrt*-Leute. Überlegungen zur Sozialstruktur des Alten Reiches’, in S. J. Seidlmayer, *Texte und Denkmäler des ägyptischen Alten Reiches* (Thesaurus Linguae aegyptiae 3; Berlin 2005), 27–68. For the *mrt*-chapel see W. Barta, ‘Meret-Heiligtum’, *LdÄ* VII, 11–13.

²⁵ ČN 120, 67–68 (no. 68) = Labrousse and Moussa, *Chaussée*, 160, fig. 79 (doc. 62).

²⁶ ČN 120, 65 (no. 57) = Labrousse and Moussa, *Chaussée*, 167, fig. 94 (doc. 74); on the name see Ranke, *PN* I, 266, 22; 267, 1.

²⁷ ČN 120, 56 (no. 5) = Labrousse and Moussa, *Chaussée*, 166, fig. 93 (doc. 73). See Ranke, *PN* I, 320, 17 for the name of Seshem-nefer.

²⁸ ČN 120, 57 (no. 10) = Labrousse and Moussa, *Chaussée*, 165, fig. 89 (doc. 69).

²⁹ ČN 120, 60 (no. 23) = Labrousse and Moussa, *Chaussée*, 164, fig. 85 (doc. 65).

³⁰ ČN 120, 58 (no. 18).

³¹ Ranke, *PN* I, 141, 8.

³² Ranke, *PN* I, 239, 17.

³³ Name not attested in Ranke, *PN*

³⁴ ČN 120, 57 (no. 8). If this is the deity Shesmu, it could be the only reference to the god in an Old Kingdom personal name. For this deity, see M. Ciccarello, ‘Shesmu the Letopolite’, in *Studies in Honor of George R. Hughes* (SAOC 39; Chicago 1976), 43–54.

³⁵ ČN 120, 77 (no. 112).

³⁶ ČN 120, 68 (no. 69). Labrousse and Moussa, *Chaussée*, 170, fig. 107

(doc. 87), also recorded this block but in a worse state of preservation.

Actually, the name and titles of this individual (he was also *hsty-r* and *smr-w'ty*), depicted at the far right of the block are completely lost. In the same relief, Labrousse and Moussa, *ibid*, misread the title *mdh ny-sw't qd(w)*, 'king's architect' (Jones, *Index*, 464, no. 1732), at the far left of the block.

³⁷ ČN 120, 62 (no. 33) = Labrousse and Moussa, *Chaussée*, 163, fig. 83 (doc. 63a–d). According to Labrousse and Moussa, 163, fig. 83; pl. XIII, this figure would be actually the eighteenth one at the right. Černý possibly counted another figure at the very beginning of the procession which, according to the picture published by Labrousse and Moussa, apparently was also chiselled out. Unfortunately, neither the Czech epigraphist nor Labrousse and Moussa recorded this possible example of *damnatio memoriae*.

³⁸ *hwt-nbw(y)* is not attested in Ranke, *PN* as personal name

³⁹ ČN 120, 62 (no. 35) = Labrousse & Moussa, *Chaussée*, 182, fig. 132 (doc. 100).

⁴⁰ Labrousse and Moussa, *Chaussée*, 168, fig. 99 (doc. 79). For some examples of *damnationes memoriae* in royal mortuary complexes see Jánosi, *Ä&L* 8 (1998), 61–65, [fig. 7](#), pls 4–6 (block no. 5); M. Verner, 'Who was Shepseskara, and when did he reign?', in M. Bárta and J. Krejčí (eds), *Abusir and Saqqara in the Year 2000* (ArOr Supplementa IX; Prague 2000), 590–591.

⁴¹ ČN 120, 60 (no. 21) = Labrousse and Moussa, *Chaussée*, 146, fig. 41 (doc. 27a–b). I have not been able to confirm if this graffito is preserved on the scene currently placed *in situ* in Unas' causeway.

⁴² ČN 120, 60a (unnumbered).

⁴³ ČN 120, 56 (no. 6) ; 57 (no. 9) = Labrousse & Moussa, *Chaussée*, 159, fig. 75 (doc. 58); Labrousse and Moussa, *Chaussée*, 168, fig. 99 (doc. 79). See A. Labrousse, J.-Ph. Lauer and J. Leclant, *Mission archéologique de Saqqarah II. Le temple haut du complexe funéraire du roi Ounas*, (BdE 73; Cairo 1977), 62, fig. 40, for similar graffiti in black ink mentioning an unidentified *imy-r w'ty*.

⁴⁴ ČN 120, 67 (no. 67). It was also recorded by Grdseloff, see IN 120, 103 (third line from the top, omitted in [fig. 4](#)).

⁴⁵ For a similar representation, but with Unas possibly seated, see Labrousse and Moussa, *Chaussée*, 153, fig. 60 (doc. 46). According to Černý's drawing, Unas wears neither beard nor *uraeus*.

⁴⁶ Z. Hawass and M. Verner, 'Newly Discovered Blocks from the Causeway of Sahure', *MDAIK* 52 (1996), 181, 183, [fig. 1a](#), pl. 52.

⁴⁷ Hawass and Verner, *MDAIK* 52 (1996), 182–185, fig. 2a, pl. 55b.

⁴⁸ Harpur, in Magee, Bourriau and Quirke (eds), *Sitting beside Lepsius*, 204–205, 222, fig. 1.

⁴⁹ For these blocks see Labrousse and Moussa, *Chaussée*, 140–143, figs 29–34 (docs 17–19 and perhaps 20). Complete catalogue of elements mentioned in the inscriptions in Espinel, *BIFAO* 107, 105.

⁵⁰ ČN 120, 60 (no. 24); 103 (two first lines) = Labrousse and Moussa, *Chaussée*, 141, fig. 30 (doc. 18a–b); ČN 120, 61 (no. 25) = Labrousse and Moussa, *Chaussée*, 140, fig. 29 (doc. 17); ČN 120, 104 (second to last line) = Labrousse and Moussa, *Chaussée*, 141, fig. 31 (doc. 19).

⁵¹ ČN 120, 61 (no. 25) records remains of a *t*-phonogram at the very beginning of the text indicating the presence of *tm*, ‘granite’.

⁵² ČN 120, 77 (nos 114, 115); Hawass and Verner, *MDAIK* 52 (1996), 181–182, pls 54 and 56c (third register from the top). ČN 120, 61 (no. 31) = Labrousse and Moussa, *Chaussée*, 170, fig. 109 (doc. 89) could represent a similar procession orientated leftwards.

⁵³ F. W. F. von Bissing, *Das Re-Heiligtum des Königs Ne-woser-re (Rathures). Band II. Die kleine Festdarstellung* (Leipzig 1923), 3, pl. 4 (no. 11b).

⁵⁴ See, for example, U. Luft, ‘Das *sid*-Fest im Alten Reich’, in D. Mendel and U. Claudi (eds), *Ägypten im Afro-Orientalischen Kontext. Aufsätze zur Archäologie, Geschichte und Sprache eines unbegrenzten Raumes. Gedenkschrift Peter Behrens* (Afrikanistische Arbeitspapiere, Sondernummer; Cologne 1991), 238–240.

⁵⁵ London, BM EA 10753, cols. 35, 95a, 114–115, see A. Gardiner, ‘A Unique Funerary Liturgy’, *JEA* 41 (1955), 15. This ‘liturgy’, written on a Middle Kingdom papyrus, may even be older through internal evidence. For the *bnt* boxes or stands see also H. H. Nelson, ‘Three Decrees of Ramses III from Karnak’, *JAOS* 56 (1936), 232–241.

⁵⁶ J. E. Quibell, *Excavations at Saqqara (1911–12). The Tomb of Hesy* (Cairo 1913), 17, 25–26, pls 13 and 17.

⁵⁷ For a similar depiction of staffs in the newly discovered reliefs from Sahure's temple, see T. el-Awady, ‘Sahure. Ein glanzvolles Königsleben’, in V. Brinkmann (ed.), *Sahure : Tod und Leben eines grossen Pharao* (München 2010), 200–202, figs 160–161.

⁵⁸ For the *gsst* bed, see E. Brovarski, ‘An Inventory List from ‘Covington's Tomb’ and Nomenclature for Furniture in the Old Kingdom’, in P. D. Manuelian (ed.), *Studies in Honor of W. K. Simpson I* (Boston 1996), 148–152; for the *imyt-r* sticks, see H. G. Fischer, ‘Notes on Sticks and Staves in Ancient Egypt’, *MMJ* 13 (1979), 5–7, 32.

⁵⁹ ČN 120, 68 (no. 69) = Labrousse and Moussa, *Chaussée*, 170, fig. 107 (doc. 87). The previous individual could be Isesikhaef who held this priestly office at the beginning of the sixth dynasty, see M. I. Moursi, *Die Hohenpriester des Sonnengottes von der Frühzeit Ägyptens bis zum Ende des Neuen Reiches* (MÄS 26; Berlin 1972), 29–30 (no. 14).

⁶⁰ For another relief from the causeway depicting a queen, see Labrousse

and Moussa, *Chaussée*, 169, fig. 106 (doc. 86). On Nebet and Khuit see M. Baud, *Famille royale et pouvoir sous l'Ancien Empire égyptien* 2, (BdE 126/2 ; Cairo 1999), 489 [115], 545–546 [185].

⁶¹ Ćwiek, *Relief Decoration*, 262–263.

⁶² Labrousse and Moussa, *Chaussée*, 197, fig. 166 (doc. 127).

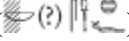
⁶³ ČN 120, 61 (no. 28). For a similar scene orientated in the opposite direction, see Labrousse and Moussa, *Chaussée*, 175, fig. 119 (doc. 95).

⁶⁴ ČN 120, 61 (no. 29). For a hypothetical reconstruction of a similar scene, see Labrousse and Moussa, *Chaussée*, 154, fig. 62.

⁶⁵ See, for example, A. M. Roth, 'Multiple Meanings in Carrying Chair Scenes', in M. Fitzenreiter and M. Herb (eds), *Dekorierte Grabanlagen im Alten Reich. Methodik und Interpretation* (IBAES 6; London 2006), 243–253. An indirect allusion to the royal carrying chair is already mentioned in an early fourth dynasty biography, see M. Baud, 'The Birth of Biography in Ancient Egypt', in Seidlmayer (ed.), *Texte und Denkmäler*, 107–110.

⁶⁶ W. Kaiser, 'Die kleine Hebseddarstellung im Sonnenheiligtum des Neuserre', *BeiträgeBf* 12 (1971), pl. 5.

⁶⁷ ČN 120, 78 (no. 116).

⁶⁸ Labrousse and Moussa, *Chaussée*, 173, fig. 112 (doc. 90); Ćwiek, *Relief Decoration*, 213. This scene shows two men facing each other possibly performing a dance or fight. The connected inscription () may relate to the verb , see R. Hannig, *Ägyptisches Wörterbuch I. Altes Reiches und Erste Zwischenzeit*, (Hannig Lexica 4; Mainz am Rhein 2003), 5 {206}. The presence of these persons in front of the alleged entrance to a royal building suggests a ritual dance or fight rather than a sporting activity.

⁶⁹ Harpur, in Magee, Bourriau and Quirke (eds), *Sitting beside Lepsius*, 208–210, 225, fig. 8.

⁷⁰ R. van Walsem, 'The Caption to a Cattle Fording Scene', in W. Clarysse, A. Schoors and H. Willems (eds), *Egyptian Religion: the Last Thousand Years. Studies Dedicated to the Memory of Jan Quaegebeur II* (OLA 85; Leuven 1998), 1484–1485, fig. 13; Hawass and Verner, *MDAIK* 52 (1996), 184–185, pls 56a–b; W. Decker, *Pharaoh und Sport* (Mainz am Rhein 2006), 67, fig. 65. For another Old Kingdom relief from a royal complex (?) depicting sporting activities, see Goedicke, *Re-used Blocks*, 139–140 (no. 85).

⁷¹ ČN 120, 78 (nos 117–118 respectively).

⁷² See Labrousse and Moussa, *Chaussée*, 136–137, figs 16–21 (docs 5–10). One of these reliefs (doc. 5) is also recorded in ČN 120, 62 (no. 32). On Userkaf's scenes, see A. Labrousse and J.-Ph. Lauer, *Les complexes funéraires d'Ouserkaf et de Néferhétépès. Planches* (BdE 130/2; Cairo 2000), 91, figs 310–311 (docs 238–239).

⁷³ See A. McFarlane, *Mastabas at Saqqara. Kaiemheset, Kaipunesut, Kaiemsenu, Sehetepu and Others* (ACE Reports 20; Oxford, 2003), 23, pl.

⁷⁴ N. Kanawati and A. McFarlane, *Deshashah. The Tombs of Inti, Shedu and Others*, (ACE Reports 5; Sydney 1993), 24–25, pls 2, 26–27.

⁷⁵ ČN 120, 78 (no. 119).

⁷⁶ See A. R. Schulman, 'The Battle Scenes of the Middle Kingdom', *JSSEA* 12 (1982), 165–183; B. Jaroš-Deckert, *Das Grab des Jnj-iti.f. Die Wandmalereien der XI. Dynastie*, (AV 12; Mainz am Rhein 1984), 28–30, pls 14; 37–47, pl. 17; 76–77, pl. 23.

⁷⁷ See E. Naville, *The XIth Dynasty Temple at Deir el Bahari I* (MEEF 28; London 1907), pls XIVd, f; XVa–d, g–I; W. S. Smith, *Interconnections in the Ancient Near East. A Study of Relationships between the Arts of Egypt, the Aegean, and Western Asia* (New Haven 1965), 148–149, fig. 185.

⁷⁸ For scenes from the twelfth dynasty royal complexes, see JarošDeckert, *Jnj-iti.f*, 45–46.

⁷⁹ On war in the Old Kingdom see J. C. Moreno García, 'War in Old Kingdom Egypt (2686–2125 BCE)', in J. Vidal (ed.), *Studies on Warfare in the Ancient Near East* (AOAT; Münster, in preparation). I am very grateful to the author for providing me with a copy of this essay prior to its publication.

⁸⁰ See M. Ziermann, 'Bemerkungen zu den Befestigungen des Alten Reiches in Ayn Asyl und in Elephantine', *MDAIK* 54 (1998), 341–359. For an overview of Old Kingdom defensive systems see C. Vogel, *Ägyptische Festungen und Garnisonen bis zum Ende des Mittleren Reiches* (HÄB 46; Hildesheim 2004), 29–59.

⁸¹ A. Kempinsky, 'Fortifications, Public Buildings and Town Planning in the Early Bronze Age', in A. Kempinsky and R. Reich (eds), *The architecture of Ancient Israel from the Prehistoric to the Persian Periods* (Jerusalem 1992), 72. See also, A. D. Espinel, *Etnicidad y Territorio en el Egipto del Reino Antiguo* (Avla Aegyptiaca Studia 6; Barcelona 2006), 165.

⁸² Y. Harpur, personal communication. For some examples of everyday scenes from the causeway see Harpur, in Magee, Bourriau and Quirke (eds), *Sitting beside Lepsius*, passim.

⁸³ A. Oppenheim, 'Decorative Programs and Architecture in the Pyramid Complexes of the Third and Fourth Dynasties', in P. Jánosi (ed.), *Structure and Significance. Thoughts on Ancient Egyptian Architecture* (DGÖAW 33; Wien 2005), 474–475; and L. Flentye in this volume.

⁸⁴ Labrousse and Moussa, *Chaussée*, 36–47; Ćwiek, *Relief Decoration*, 257–260.

⁸⁵ ČN 120, 78 (no. 120).

⁸⁶ The explanation for the change in orientation can only be conjectured, bearing in mind a general rightwards orientation which would explain the general direction of columns 1–2 and 5. On the other hand, the reversal of columns 3–4 could be, following Fischer's terminology, associated with an

emphasis of unknown nature related either to the textual content or to the scenes described by the columns; see H. G. Fischer, *Egyptian Studies II. The Orientation of Hieroglyphs. Part I. Reversals* (Egyptian Studies Association Publication 2; New York 1977), 106–110 (§§34–36).

⁸⁷ This block may be related to another one (ČN 120, 58, no. 14) described by Černý as *register de base. Bateau. Au-dessus de lui ligne de base d'un subregistre supérieur avec reste d'une inscr.*

⁸⁸ H. Altenmüller, *Die Wanddarstellungen im Grab des Mehu in Saqqara* (AV 42; Mainz am Rhein 1998), pl. 19b; N. Kanawati, *Mereruka and his family. Part II. The Tomb of Waatetkhehor* (ACE Reports 26; Warminster 2008), pl. 69; N. Kanawati and M. AbderRaziq, *The Teti Cemetery at Saqqara. Volume VI. The Tomb of Nikauisesi* (ACE Reports 14; Warminster 2000), pls 49 and 55; Y. Harpur and P. Scremin, *The Chapel of Ptahhotep. Scene Details* (Egypt in Miniature 2; Oxford 2008), 18–19 (nos 17–19).

⁸⁹ For a rare contemporary example, see Harpur and Scremin, *Chapel of Ptahhotep*, 167, 320 (no. 234).

⁹⁰ Blocks to be published by Tarek el-Awady. For preliminary publications, see T. el-Awady, 'Ausgrabungen am Aufweg der Sahure-Pyramide', *Sokar* 14 (2007), 20–31; id., 'King Sahura with the precious trees from Punt in a unique Scene!', in M. Bárta (ed.), *The Old Kingdom Art and Archaeology* (Prague 2006), 37–44; id., 'The Royal Family of Sahure. New evidence', in M. Bárta, F. Coppens and J. Krejčí, *Abusir and Saqqara in the Year 2005* (Prague 2006), 192–196 (nos I. 1–2). For other naval scenes coming from Sahure's causeway see T. el-Awady, 'Boat Graves in the Old Kingdom Royal Funerary Complexes', in Z. Hawass, Kh. Daoud and S. Abd el-Fattah (eds), *The Realm of the Pharaoh. Essays in Honor of Tohfa Handoussa* (CASA 37; Cairo 2008), 188–195, figs 1–4; pls 1–4; id., in Brinkmann (ed.), *Sahure*, 205–207. figs 166–167.

⁹¹ Labrousse and Moussa, *Chaussée*, 153, fig. 60, doc. 46 ; id., *Le temple d'accueil du complexe funéraire du roi Ounas*, (BdE 111; Cairo, 1996), 86, doc. 49, fig. 86, pl. XIV; Goedicke, *Re-used Blocks*, 24–26 (no. 8; MMA 09.180.4). These blocks with royal narratives could be added to another discovered in the tomb of Maya during the joint mission of the EES and the Leyden Museum directed by G. T. Martin. The block is to be published by Y. Harpur. I am very grateful to her for the information.

⁹² Blocks to be published by Tarek el-Awady.

⁹³ Goedicke, *Re-used Blocks*, 82–84 (no. 46; MMA 15.3.1138). Other examples (very different in content) of long texts on the walls of mortuary complexes include the temple calendars of Sahure's funerary temple and Niuserre's sun-temple, see E. Sherif el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool 2000), 1–8, who offers additional bibliography.

⁹⁴ An earlier example of a long 'narrative' text connected to a representation is the newly discovered scene depicting Sahure fowling with

a clap-net, see el-Awady, in Brinkmann (ed.), *Sahure*, 202–204, figs 162–163.

⁹⁵ Parallel ideas perhaps inspired decoration in private tombs as a means of displaying and perpetuating relevant social and economic roles of owners. For more on these ideas see contributions in Fitzenreiter and Herb (eds), *Dekorierte Grabanlagen im Alten Reich*.

⁹⁶ Espinel, *BIFAO* 107 (2007), 98, after ideas of Traunecker and van Walsen.

⁹⁷ *ibid*, 97–100.

A spatial metaphor for chronology in the secondary cemeteries at Giza

May Farouk

Although both of the two main excavators of Giza, Reisner¹ and Junker,² produced a different scenario for the development of the Giza cemetery, they both differentiated clearly between two main building phases: the original stateplanned phase which included six nucleus cemeteries³ and the later phase which included the smaller tombs built in the large spaces of unoccupied land left among and around the nucleus cemeteries. These later tombs were used either for members of the family of the owners of the larger mastabas or for their *ka*-priests. Clustering around the large older mastabas, these minor mastabas formed gradually what Reisner described as the secondary cemetery of Giza. A considerable number of those smaller tombs in the Eastern Cemetery and the Western Cemetery are uninscribed and are difficult to pinpoint precisely in time in the absence of artefacts or inscriptions. The present article is an attempt to use the options of Geographical Information System (GIS) software to produce a tentative global dating for such areas of tombs.⁴

In attempting to find a spatial metaphor for chronology which could be used to recognise different building areas in the secondary cemetery, it was assumed that areas of higher tomb density are of later relative date than those of lower density. In other words the building sequence in each cemetery can be traced in the direction of the decreasing distance between tombs. Higher density of tombs in one area is formed by two factors: the decreasing distance between tombs and their small sizes. Reisner assumed that mastabas of larger size are earlier because large mastabas could only have been made when large spaces were still clear between the independent mastabas. To test this hypothesis, the tombs of several small cemeteries were examined.

By applying a point density tool to the tombs of cemeteries G 1000 and G 1100 (Fig. 2), it became clear that the density of tombs increases in the study

area from south to north and from west to east. The most occupied area is the north-east corner, suggesting that it is the latest area in the cemetery, and this agrees with the dating of Reisner for those tombs based on their types.⁵ Thiesen polygons⁶ were drawn around the main cores of this cemetery⁷ (G 1221, G 1109, G 1020, G 1044, G 1024, G 1101 – Fig. 2). The largest number of tombs are those which are located in the north-east corner within the dominance area of G 1044. That later group of tombs has obviously lost the connection to the centre and was extended independently to the north-east. The same tendency of tombs to extend towards the north-east can be noticed in cemeteries G 1400, G 1600 and G 3000 (Fig. 3). Here again the number of tombs increases towards the north-east corner.

The sequence of building suggested by the density maps for cemeteries G 1000, G 1100, G 1400, G 1600 and G 3000 is also supported when the visibility factor is taken into consideration. It was always the wish of tomb owners to locate their chapels on the eastern face of the mastaba to be visible to visitors and passers-by. Plate 3 demonstrates that the constant tendency to build towards the east caused older tombs in this cluster to have less share of visibility, if any. To acquire the best possible view on the plateau might have been also a competitive element which governed the expansion of the cemetery. When a viewshed⁸ analysis was made for two tombs no more than 50 metres apart (Plate 5 and Plate 6) the range in view difference between both was very wide, demonstrating the significant change of visibility according to the location of the tomb.

The situation in cemeteries G 2000 and G 2200 was more complicated. Not only was their growth limited by their position between mastaba G 2000 and cemetery G 2100, but also an outcrop of bad rock happens to be located in the centre of its building area. According to their types, the earlier tombs are those situated in the eastern border of the cemetery. Later tombs extended from east to west as far as the eastern wall of G 2000, blocking access to its chapel. When the land in that direction was consumed, another building ground to the north was initiated, avoiding the area of bad rock in the middle. In this case too growth extended from east to west, using the land adjacent to G 2000 as the last alternative. The point density map of this cemetery (Fig. 4) reflects the same development scenario.

The growth of cemetery G 6000 was also limited by natural features (the Schiaparelli quarry) and by the existence of earlier cemeteries (the Steindorff cemetery). The area of higher density in G 6000 is at the north-west corner, where it meets with the adjacent Steindorff cemetery. The area where they meet in particular has a higher density of tombs than both cemeteries which might indicate their simultaneous growth in opposite directions (Fig. 1).

That these dense areas of tombs are of later date is better demonstrated by the Cemetery En Echelon (CEE). There, two secondary cemeteries developed; one to the east of the three original lines of the cemetery, and one

to their north. The density map of the first cemetery indicates its growth towards the north until it was stopped by the existence of the *sndm-ib* complex.⁹ The north cemetery on the other hand grew towards the west extending beyond the earlier line of tombs G 2440-G 5280, and turning later to the south-west, which was the latest part of the cemetery. Distribution of the names of kings within the two cemeteries supports the same growth tendency. Names of kings of the fifth and sixth dynasties occur more often in the high density areas than in less occupied parts where the name of king Khufu is more in evidence (Plate 1).

The same principle can be applied to the central area of the western cemetery, on which little research has been done, to propose a general scenario concerning the development of the area. The line of tombs adjacent to the cemetery G 4000 (D 110–D 118) is certainly the earliest, not only because the area has a lower density of tombs, but also according to Junker, who estimated the dating to be between the end of the fourth dynasty and the beginning of the fifth.¹⁰ The density map gives the impression that the cemetery developed from outside to inside, from west to east, the latest areas being thus those in the centre of the cemetery. Visibility also plays an important role here, this time as a motivator for the earlier builders to build their tombs as close as possible to the outer borders of the block, the inner tombs being much less visible (Plate 4).

Taking into account the lines of direction created by the density map, it is overwhelmingly evident that the Great Pyramid had little if any spatial weight during the later phase of the Western Cemetery development. Local considerations and topographical features on the other hand played a greater role in the organisation of tombs.

Secondary tombs around the main cores of the nucleus cemetery indicate their chronological position in another manner. Those tombs which are built in a position to impede access to the older mastabas or to block the streets of the cemetery should in general be considered later than the secondary tombs which respected the layout of the cemetery. To recognise tombs of the first type, a selection by location was applied to all secondary tombs within 80 cm distance of the main cores, the minimum space to maintain traffic between two tombs. The outcome of selection demonstrates that the largest number of intrusive tombs was located around the main cores of G 4000. A point density map shows however that the most occupied area was around the cores of G 2100. This area of high density continues through the density map of the central area of the Western Cemetery (WCE, the area marked with a circle in Plate 2). It is difficult however to claim that either the secondary tombs cores around G 2100 or the central area in the Western Cemetery were an extension of the other, since tombs around the main cores are associated with a different context of family relations and funerary service.

Conclusion

Secondary cemeteries tended to have higher density as they grew, but this factor alone cannot be used to determine the chronological development of the necropolis. Local factors such as topographical features and the existence of larger earlier mastabas had also an influence on the final shape of the necropolis. Access to earlier structures was preserved as long as possible, and only blocked when building land in each cemetery became scarce. To answer the question whether the preservation of access was out of conventional morality or genealogical ties, more detailed research for each case would be required. Higher areas of density should in general be interpreted as later parts of the cemetery, and often as a meeting area between two simultaneously growing cemeteries.

Striving for the best visibility conditions influenced the expansion direction of secondary cemeteries and the urge to see and to be seen was no less fierce than the competition for an area of land.

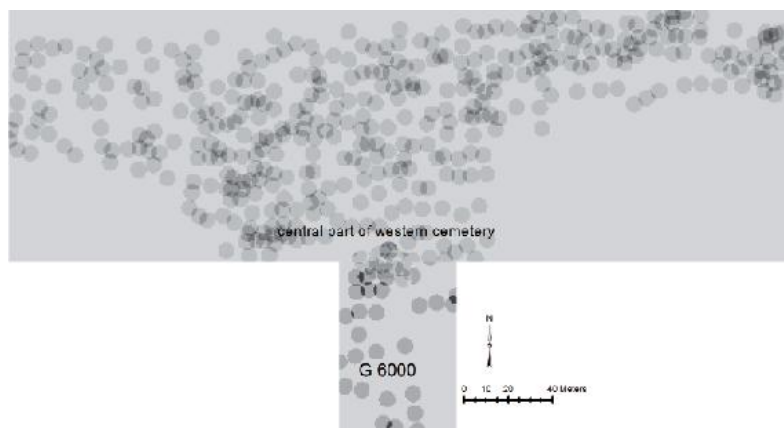


Fig. 1: Point density of cemetery G 6000 and the central part of the Western Cemetery

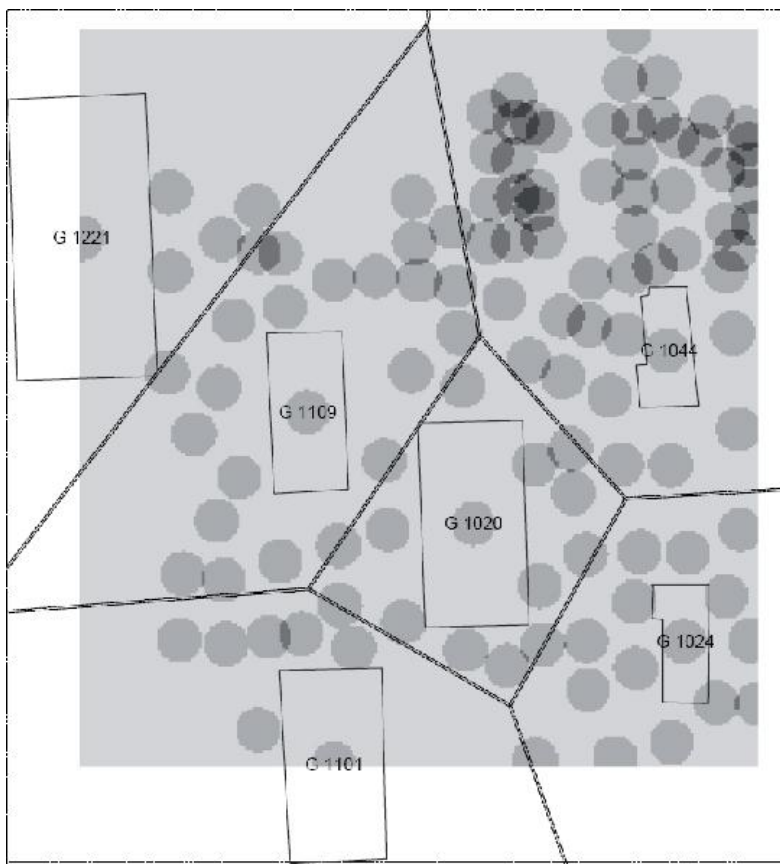


Fig. 2: Point density and Thiesen polygons of cemeteries G 1000 and G 1100

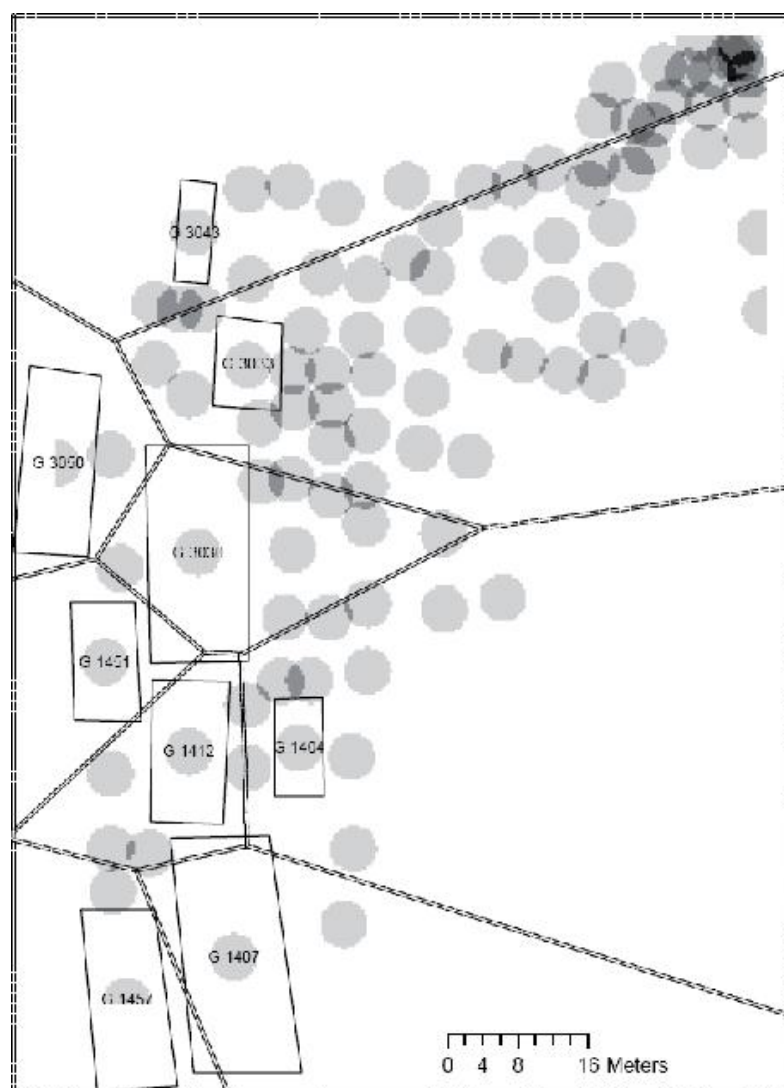


Fig. 3: Point density and Thiesen polygons of cemeteries G 1600, G 1400 and G 3000

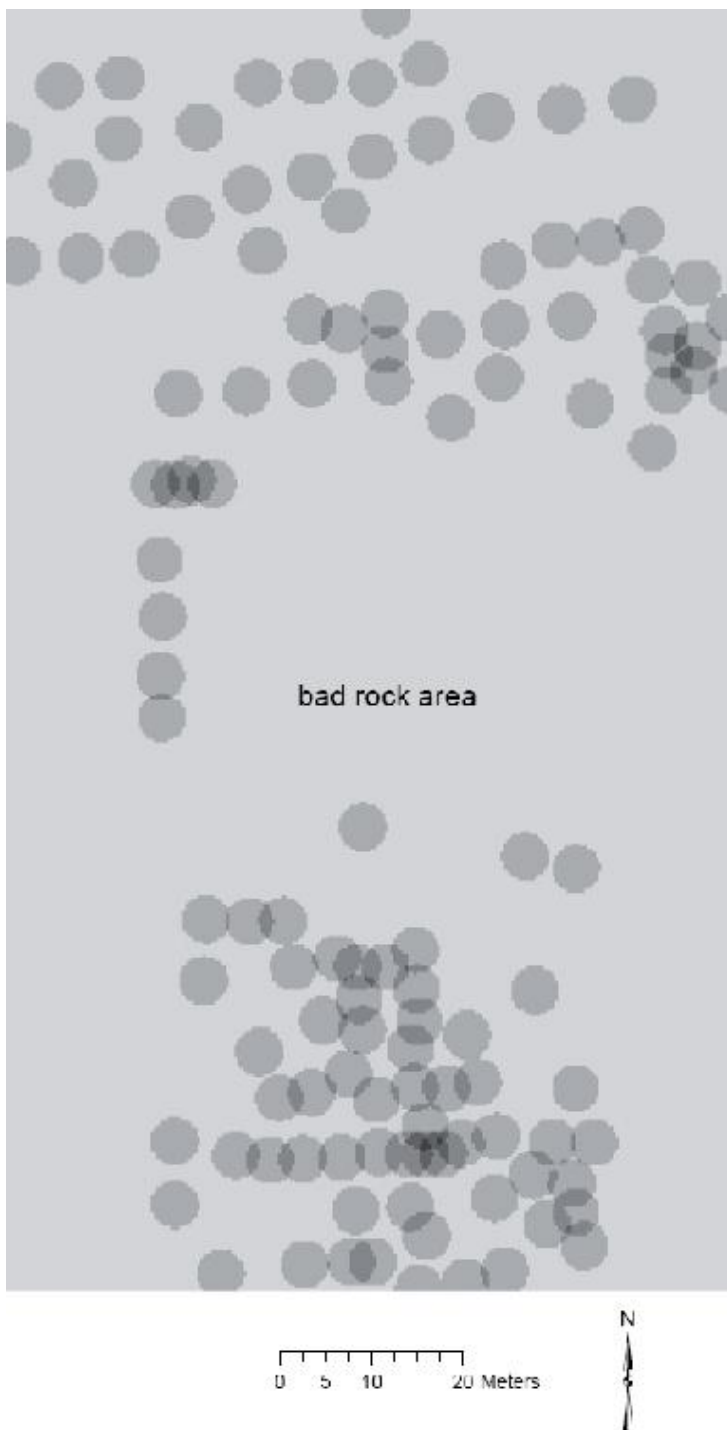


Fig. 4: Point density of cemeteries G 2000 and G 2100

¹ For his dating of the Giza cemetery, see G. A. Reisner, *A History of the*

Giza Necropolis I (Cambridge, Mass. 1942), 13–15, 73–84; Reisner, [Chapter 15](#) of *Giza Cemetery Volume 2*, an unpublished manuscript kept in the Boston Museum of Fine Arts, *passim*.

² For his dating of the Giza cemetery, see H. Junker, *Gîza I. Die Mastabas der IV. Dynastie auf dem Westfriedhof* (Vienna and Leipzig 1929), 10–14.

³ The main cores in the Eastern Cemetery, cemetery G 1200, G 2100, G 4000, Cemetery En Echelon and cemetery GIS.

⁴ The present article is a part of a PhD thesis in which a geodatabase for the whole Giza cemetery was constructed with the means of ArcGis 9.3 software.

⁵ G. A. Reisner, *Cemetery G 1000–1100*, unpublished manuscript kept in the Boston Museum of Fine Arts, 1–13.

⁶ Thiesen polygons are polygons drawn around each point in a given space so that each polygon encloses only one point. This method attaches areas of space to the nearest centre in its vicinity. It deals with all centres equally, regardless of their size and hierarchy. For more information about Thiesen polygons see: C. Renfrew and P. Bahn, *Archaeology: Theories, Methods and Practice* (5th edition; London 2008), 159.

⁷ Those which Reisner designates as early or on independent sites.

⁸ A viewshed is an area that is visible from a specific location based on elevation values of a Digital Elevation Model (DEM). For further reading about the viewshed analysis: Y.-H. Kim, S. Rana and S. Wise, ‘Exploring multiple viewshed analysis using terrain features and optimization techniques’, *Computers & Geosciences* 30 (2004), 1019–1032.

⁹ Or by the mastabas which antedated the complex in the same location, as Reisner believed that G 2370 replaced older constructions (G 2371, G 2372, G 2373). See E. Brovarski, *The Senedjemib Complex, Part I* (Giza Mastabas 7; Boston 2001), 111–113.

¹⁰ H. Junker, *Gîza VI. Die Mastabas des Nfr (Nefer), Kdfij (Kedfi), KAHjif (Kahjef) und die westlich anschliessenden Grabanlagen* (Vienna and Leipzig 1943), 4.

The decorative programmes of the pyramid complexes of Khufu and Khafre at Giza

Laurel Flentye

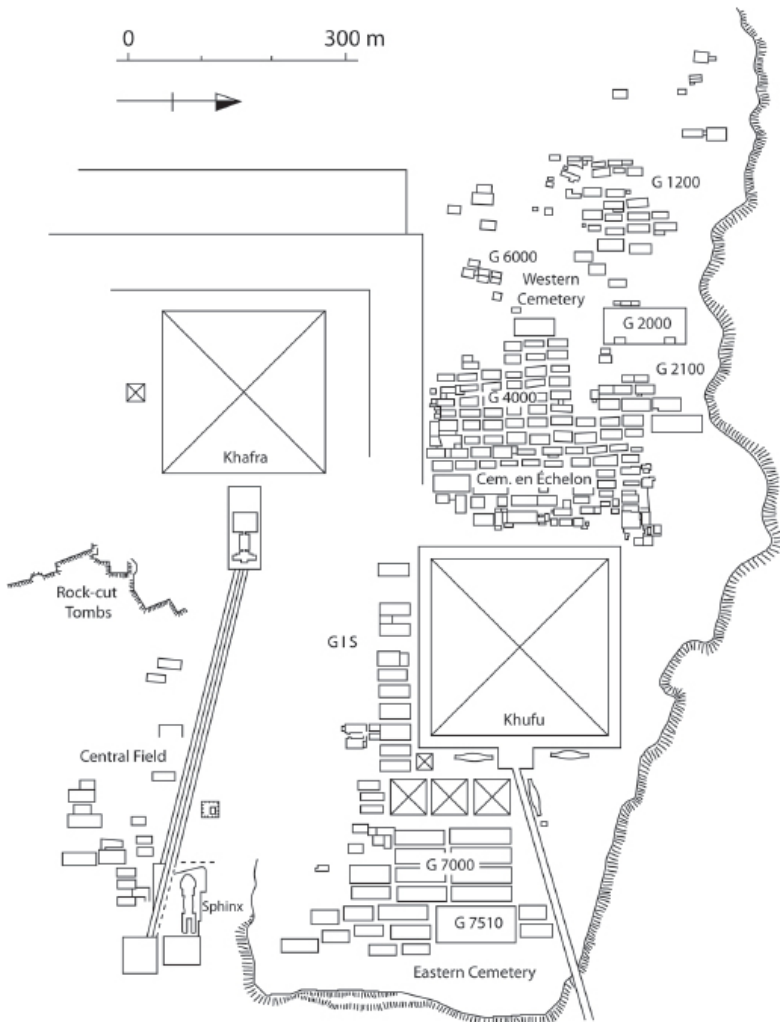
The decorative programmes of the pyramid complexes of Khufu and Khafre at Giza reflect different approaches to the royal structures that were built to ensure the rebirth of the king in the afterlife.¹ Although the decorative programmes are mostly destroyed and reconstructed through subsequent pyramid complexes, a study of the associated relief decoration and statuary suggests that significant developments occurred in the half-century between the construction and decoration of Khufu's temples and causeway and those of Khafre in the fourth dynasty.² Through an analysis of the materials, iconography, style and overall ideology, the decorative programmes may indicate how concepts of kingship and its codification in the afterlife were evolving during this period. A major factor of the mid-fourth dynasty was the increasing influence of the sun god Re, finding expression in the king's name and also in the decoration of the pyramid complexes. Thus, the decorative programmes of the pyramid complexes of Khufu and Khafre may not only express the king's identity and his relationship to the evolving concept of kingship but also how the integration of the Two Lands (Upper and Lower Egypt) with solar ideology influenced ideas of rebirth throughout the Giza Necropolis during the fourth dynasty.

Khufu's Pyramid Complex

The reconstruction of Khufu's decorative programme at Giza is problematic as his pyramid complex is mostly destroyed ([Fig. 1](#)). However, it can be reconstructed from reliefs excavated at Giza, as well as tentatively from the blocks reused in the pyramid of Amenemhat I at Lisht. Through this

evidence, it is possible to assign certain scenes or iconography to different parts of the pyramid complex based on the layouts of fourth through sixth dynasty pyramid complexes.

The remains of Khufu's pyramid temple measure $40.4 \times 52.5 \text{ m}^3$ (Fig. 2). It has an open court with basalt paving similar to the pyramid temples of the fifth dynasty, including those belonging to Userkaf, Sahure, and Niuserre,⁴ and bases for granite pillars that once surrounded the court.⁵ The surrounding colonnade was presumably decorated with fine limestone reliefs which, based on the available wall space, is calculated as roughly 100 running metres.⁶ The causeway, measuring 825 m in length and 14 m in width,⁷ was probably also decorated with reliefs (see Fig. 1).⁸ Its route extended eastward and then turned northwards,⁹ culminating in the valley temple.¹⁰ Basalt paving exposed in Nazlet el-Samman is presumably the remains of Khufu's valley temple,¹¹ which could also have been decorated with fine limestone reliefs.



Reliefs: Provenance and Iconography

The attribution of royal reliefs excavated at Giza to the pyramid complexes is based primarily upon their provenance, subject matter, and style. The excavated reliefs at Giza attributed to Khufu's and Khafre's pyramid complexes are generally carved in low relief from fine quality limestone.¹² Small relief fragments were excavated by George Andrew Reisner and the Harvard University-Boston Museum of Fine Arts Expedition from the debris of Khufu's causeway and the queens' pyramids in the 1920s and 1930s,¹³ and were tentatively assigned to Khufu's pyramid temple and the chapels of the queens' pyramids (Fig. 3).¹⁴ Some of these small fragments were found near the entrance to the pyramid temple,¹⁵ and depict a variety of subjects that may pertain to the decoration of the pyramid temple.¹⁶

A relief fragment from the debris north of Queen's Pyramid GI-a (MFA 24-12-57, size 14 × 15.3 cm), is assigned to either Khufu's pyramid temple or a queen's chapel (see Fig. 3, top row, third from left).¹⁷ It depicts a female and male identified as Khufu [...] and Hor [...], who were thought to be children of Khufu, Hordjedef possibly being the owner of mastaba G 7210/7220 in the Eastern Cemetery (G 7000) (see Fig. 1).¹⁸ They may actually be Khufu's grandchildren based on a female figure in the mastaba of Akhethetep and Meretites (G 7650) in the Eastern Cemetery (G 7000) with the partially preserved name of Khufu [...], who is Meretites' daughter.¹⁹ If this fragment comes from the pyramid temple, it would suggest that family members were included in Khufu's decorative programme. By comparison, the remains of statues of Djedefre's children were discovered in his pyramid temple at Abu Rawash.²⁰ Scenes showing family members in relief decoration are also assigned to the pyramid temples of Sahure,²¹ possibly Neferirkare,²² and also Niuserre.²³

Several fragments discovered near the queens' pyramids depict ships or boats, and may be assigned to Khufu's pyramid temple.²⁴ One of these fragments (size 41 × 23 cm) depicts a boat with the *pr-nzr* (MFA 24-11-546),²⁵ the state sanctuary associated with Buto (see Fig. 3, top row, second from left).²⁶ Inscriptions with the *pr-nzr* decorate the pillars in the statue-cult temple of Sneferu's Bent Pyramid at Dahshur,²⁷ and refer to the king's visit to the sanctuaries of Upper and Lower Egypt, a ceremony connected with the *heb sed*.²⁸ The iconography of Khufu's fragment appears to have no comparanda, based on later pyramid complexes.²⁹

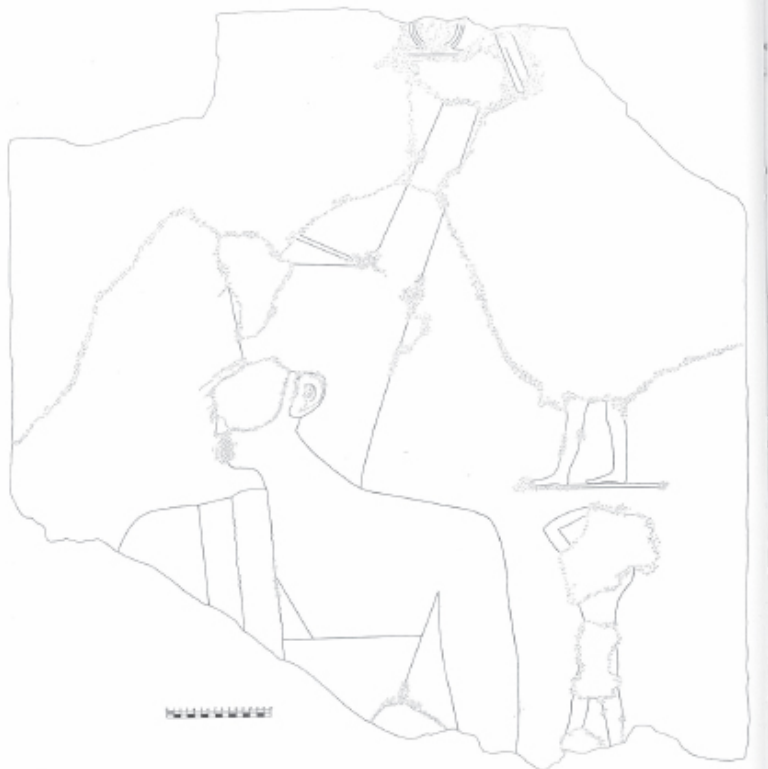


Fig. 4: Relief showing Khufu wearing the Red Crown. After Reisner and Smith, Giza II, [fig. 5](#)

A fragment with a goat's head with twisted horns (MFA 37-3-4b, size 10 × 8 cm) was also discovered in the area of Khufu's causeway (see [Fig. 3](#), middle row, second from right).³⁰ Its left-facing position might suggest that it was placed on a north wall. Another relief (MMA 22.1.20), reused in the pyramid of Amenemhat I at Lisht, shows two goats facing right, and was assigned to the south half of Khufu's pyramid or valley temples by comparison with that depicting cattle (MMA 22.1.3) on the north half.³¹ Images of goats and/or sheep are assigned to Sahure's pyramid temple³² and Unas' valley temple as booty,³³ while they are products of a particular nome in Unas' causeway.³⁴ This combined evidence suggests that goats and sheep might have decorated both the pyramid temple and causeway of Khufu. They are also a feature of the tombs in the Eastern Cemetery (G 7000), such as the mastaba of Djaty (G 7810), one of the mastabas located north of Ankh-haf's mastaba (G 7510), whose proximity to Khufu's complex may have been a factor in the tomb's decoration (see [Fig. 1](#)).

Additional reliefs were discovered by Selim Hassan in the area of Khufu's pyramid temple, causeway, and boat pits in the late 1930s.³⁵ Hassan assigned an image of Khufu wearing the Red Crown and a scene related to

the *heb sed*, excavated in the upper area of Khufu's causeway, to his causeway,³⁶ although Reisner and Smith placed these blocks within the court of the pyramid temple.³⁷ The depiction of Khufu wearing the Red Crown, measuring 110 × 112 cm, shows the king dressed in an unusual ceremonial garment with a scarf, which Hassan believed to be connected with the visit to Heliopolis, a ritual associated with the *heb sed* (Fig. 4).³⁸ Scholars have alternatively suggested that the scene refers to *hb-hdt* or the Feast of the White Hippopotamus based on the scarf.³⁹ A block now in the Bab el-Futtúh in Cairo depicting a hippo, which is interpreted as a statue based on the reed pedestal, may be part of an inscription relating to a scene of *hb-hdt* and from the pyramid complexes at Giza, possibly the decoration in Khufu's pyramid temple court.⁴⁰ In Hassan's reconstruction of Khufu wearing the Red Crown, the king is shown standing, which is reinforced by superposed registers behind.⁴¹ Based on the subject matter in addition to scenes of the king enthroned located at the upper end of the causeway, the image of Khufu wearing the Red Crown is more likely to have been located within the court of the pyramid temple.⁴²

The relief with a *heb sed* scene, measuring 27 × 175 m, shows Khufu's head facing left with a smaller-scale, seated image of the king behind facing right.⁴³ The head facing left wears the *khat* headdress with a small hawk, possibly Horus, placed at the juncture between the headdress and tail.⁴⁴ This is most likely a decorative element referring to the royal aspect of the individual and his connection to that god. A similar type of image occurs on an Egyptian alabaster fragment discovered south-east of Khafre's pyramid temple.⁴⁵ The inscription on the left mentions the *shw hufw* 'horizon of Khufu', that is, Khufu's pyramid,⁴⁶ with a standing figure on a register in front also facing left. A fragment with a partial inscription oriented to the right, possibly *shw [hufw]*, was also discovered by Hassan in Khufu's northern boat pit.⁴⁷ Its inscription might also refer to the name of Khufu's pyramid. Several fragments from Sneferu's statuecult temple make reference to 'pyramid' or the name of Sneferu's pyramid, that is, *h'j snfrw*,⁴⁸ suggesting that the inclusion of the pyramid's name was integral to the layout of the decorative programme. Behind Khufu's cartouche on the relief with a *heb sed* scene, Khufu wears a *heb sed* robe and holds a flail, and he is enthroned in a chapel. Similar images probably decorated Sneferu's statuecult temple⁴⁹ as well as Sahure's valley temple and Unas' pyramid temple.⁵⁰ This evidence suggests that the two scenes discovered by Hassan are most likely to belong in the court of Khufu's pyramid temple.

Two fragments with Khufu's torso, discovered in the upper area of the causeway, show the king facing right wearing a ceremonial *bsw* apron with a tail.⁵¹ Hassan assigned the torso to the northern wall of the causeway.⁵² Although he believed that the scene showed Khufu performing a 'ritual dance' based on the swinging forward of the beads,⁵³ it has also been suggested that it comes from a smiting scene.⁵⁴ A similar image decorates a

fragment from Unas' pyramid temple⁵⁵ in addition to the valley temple in Niuserre's pyramid complex,⁵⁶ but the beads are hanging straight down and not at an angle on these fragments. A fragment from one of the pillars in Sneferu's statue-cult temple at Dahshur has been reconstructed with Sneferu wearing an apron with a tail, with the front panel of the apron at an angle as if in movement. According to Fakhry, the scene depicts *[p]hrr h[p]* 'going round of the Apis bull', a ritual associated with the *heb sed* and rejuvenation.⁵⁷ This evidence suggests that the two joining fragments showing Khufu's torso with a beaded apron do represent some type of movement, most likely from a ritualistic scene.

Three fragments depicting hawks (or vultures) and possibly a hoopoe's head were also found in the area of the causeway.⁵⁸ A bird holding an ankh sign, measuring 16 × 11 cm, facing right was assigned to the northern wall of the causeway by Hassan. He believed that its iconography resembled fragments from Sneferu's statue-cult temple at Dahshur.⁵⁹ Fragments from the statue-cult temple do show similar imagery with a bird holding an ankh,⁶⁰ suggesting a continuation of this type of royal representation since they usually occur above an image of the king. Another fragment shows the head of a hawk with a wing above, which was assigned by Hassan to the southern wall of the causeway; in his assessment, the hawk may be perched on a serekh.⁶¹ Fragments from Sneferu's statue-cult temple show similar iconography with the head of a hawk with a wing above, one of which is assigned to a pillar (Pillar B, side no. 1).⁶² Hassan believed that the fine modelling of the Giza fragment with the hawk and a wing above is characteristic of the reliefs from Sneferu's statue-cult temple, even suggesting the same group of artisans carved both complexes.⁶³

A fragment with a bird's head, measuring 9.5 × 5.6 cm, facing right was also discovered in the area of the causeway, which Hassan believed was a hoopoe with an erect crest.⁶⁴ However, the shape of the head might also indicate another type of bird within a marsh setting. Fragments from Sneferu's statue-cult temple at Dahshur show scenes of the fowling or netting of birds in the marshes,⁶⁵ indicating that this scene type was already present in the iconography of his pyramid complex and possibly influenced Khufu's decorative programme. Clapnet scenes or scenes in the marshes in the tombs at Maidum, such as those belonging to Nefermaat and Atet,⁶⁶ might have also contributed to the scene types in the royal pyramid complexes and vice-versa. Fragments from Userkaf's pyramid temple also indicate that the iconography of the king hunting in the marshes was integral to its decorative programme.⁶⁷

Additional blocks with and without royal cartouches were discovered between 1906 and 1934 by the Metropolitan Museum of Art's Egyptian Expedition, reused in the pyramid of Amenemhat I at Lisht,⁶⁸ and may also be tentatively assigned to Khufu's pyramid complex at Giza.⁶⁹ However, it is also suggested that the reused Lisht blocks are not only from temples

belonging to pyramid complexes but could also be from as yet unknown deity temples,⁷⁰ placing the blocks in a more uncertain category in relation to the pyramid complexes at Giza.

The head of a female personification of an estate (MMA 22.1.7, size 30 × 22 cm) reused in the pyramid of Amenemhat I at Lisht is shown with Khufu's cartouche on her head, which forms part of her name, *nfr ḫwfw* 'perfect is Khufu'.⁷¹ Parts of two scenes, personified estates bringing offerings and the royal palace (MFA 58.321, size 43 × 123 cm),⁷² depict a chapel with the Golden Horus name of Khufu below on the right.⁷³ Presumably, an image of the seated king was located below the falcon facing to the right.⁷⁴ On the left are three estates facing left.⁷⁵ The two females wear garments with an unusual tie for the straps at their shoulders.⁷⁶ Based on subsequent pyramid complexes,⁷⁷ it is suggested that the head of a female personification of an estate (MMA 22.1.7) belongs in the south half of either Khufu's pyramid temple or the upper section of his causeway facing inwards.⁷⁸ Both reliefs depicting estates (MMA 22.1.7 and MFA 58.321), however, are also assigned to the valley temple based on the decoration of Sneferu's statue-cult temple.⁷⁹ In addition, they are also reconstructed in the causeway approaching an enthroned image of the king based on other pyramid complexes, such as those belonging to Unas and Pepy II.⁸⁰ In this respect, the reliefs showing estates may belong to the pyramid temple or the upper section of Khufu's causeway.

Another block found reused in the pyramid of Amenemhat I at Lisht is a depiction of cattle (MMA 22.1.3, size 46 × 137.5 cm), which shows three long-horned cattle in single file facing left. They are considered to be offerings for the king's funerary cult,⁸¹ based on their singular representation rather than overlapping.⁸² The relief is to be placed in the north half of Khufu's pyramid temple or valley temple,⁸³ based on the pyramid temple of Sahure and Unas' valley temple.⁸⁴ However, the relief is also reconstructed in the causeway due to scenes of royal offerings in the valley temple and foreigners in the causeway.⁸⁵ Herodotus mentions Khufu's causeway as being 'covered with carvings of animals'.⁸⁶ In the Eastern Cemetery (G 7000), Smith reconstructed a file of cattle on the west wall in Ankh-haf's mastaba (G 7510).⁸⁷ Based on the proximity of Khufu's pyramid temple and causeway, it is possible that Ankh-haf's mastaba (G 7510) was influenced by such scenes (see Fig. 1).

Statuary

Several fragments of statuary were also discovered at Giza that may be attributed to Khufu's pyramid complex.⁸⁸ A greywacke head possibly wearing the White Crown (MFA 24.2796) was found in the Eastern Cemetery (G 7000); however, Florence Friedman now suggests that the head probably belongs to a triad of Menkaure.⁸⁹ An Egyptian alabaster *nemes*

headdress with an open-winged falcon (MFA 27.1466) was also discovered in the Eastern Cemetery (G 7000), and may belong to Khufu's statuary programme;⁹⁰ however, Khafre's statue with the open-winged falcon (CG 14) may indicate that the Egyptian alabaster headdress originally came from his complex. Several Egyptian alabaster bases with Khufu's cartouche (MFA 13.3448 and 24.2711), belonging to small-scale statues, were also found in the Western and Eastern Cemeteries respectively.⁹¹ It is evident both from Khafre's and Menkaure's corpora of statuary that small-scale statues were also a feature of the decorative programmes in their pyramid complexes.⁹²

Khafre's Pyramid Complex

The pyramid complex of Khafre is somewhat better preserved than Khufu's (see Fig. 1). Certainly, the statuary associated with Khafre's complex enhances our knowledge of the range of statue types associated with a royal pyramid complex.⁹³ The main materials are 'Chephren diorite' or anorthosite gneiss, Egyptian alabaster, and greywacke. According to Reisner, the total number included 22 or 23 life-size statues in the valley temple, 'probably as many more' in the pyramid temple, in addition to smaller statues making a total of between 100 and 200 statues.⁹⁴ The abundance of statues may indicate that statuary was much more of a feature of Khafre's decorative programme than Khufu's;⁹⁵ however, excavation of Khufu's valley temple may increase our knowledge of his statuary.

Pyramid Temple

Khafre's complex was cleared by Uvo Hölscher in 1909.⁹⁶ The pyramid temple, measuring 56.2×111.2 m,⁹⁷ had red granite walls and pillars, as well as an Egyptian alabaster floor (Fig. 5).⁹⁸ It has both wide and deep halls in a T-formation supported by granite pillars, similar to the valley temple. Hölscher believed that the deep hall may have had enthroned statues as well as standing figures of the king, in addition to group statues that included the king and either the queen or goddesses.⁹⁹ He also placed over life-size granite statues in the long rooms off the wide hall, which he called serdabs.¹⁰⁰ The court of the pyramid temple had twelve colossal statues, possibly granite, based on the rectangular pits in the floor.¹⁰¹ According to Hölscher, these were standing statues, possibly six metres high, and in Osiride form.¹⁰² Herbert Ricke, however, reconstructed the court with seated statues of Khafre wearing the *nemes*.¹⁰³ He also reconstructed a reused architrave in the pyramid of Amenemhat I at Lisht in the court of Khafre's pyramid temple.¹⁰⁴ The architrave shows the king's cartouche with outward-facing falcons on the ends that may have protected statues of the king in the court; the king's Horus name would have continued vertically down the

pillars below based on the seated falcons behind the outward-facing ones.¹⁰⁵ Ricke believed that the statues, in coordination with the architraves depicting falcons with outstretched wings and the sockets in the floor, could not be higher than 3.75 m.¹⁰⁶ Dieter Arnold, however, has shown that Ricke's reconstruction of the architrave spanning the doorways between the piers may be inaccurate based on the measurements, which led Arnold to conclude that the architrave might have belonged in the court of Khafre's pyramid temple or in a similar location in another temple, as yet undiscovered.¹⁰⁷ In the Eastern Cemetery (G 7000), an intriguingly similar arrangement of vertical titles is located on the piers separating the statue niches in Minkhaf's exterior chapel (G 7430) (Fig. 6). Mark Lehner has also suggested that the statues in the court of the pyramid temple could have been striding, and refers to a model of a king (GPMP 175) discovered in the so-called 'Workmen's Barracks', west of Khafre's pyramid: the model is painted in imitation of granite, 'wearing the crown of the south, with a back pillar painted to imitate granite'; the back pillar and projecting roof resemble the colonnade in the court.¹⁰⁸ Lehner also mentions striding statues wearing the White Crown usurped by Ramesses II, and whose bases seem to fit the sockets in the floor of the court of the pyramid temple.¹⁰⁹ Certainly, striding statues of Khafre are known, such as the life-size greywacke statue (CG 16), and small-scale statues (for example JE 72213) (Fig. 7).¹¹⁰ Relief decoration was also possibly located in the inner walls of the court of the pyramid temple, depending upon whether the granite was only at dado level.¹¹¹ However, it is suggested that only the westernmost areas (the storerooms and narrow halls) had limestone lining their walls.¹¹² Beyond the west wall of the court were the five chambers that contained either statues or possibly other ritualistic objects.¹¹³

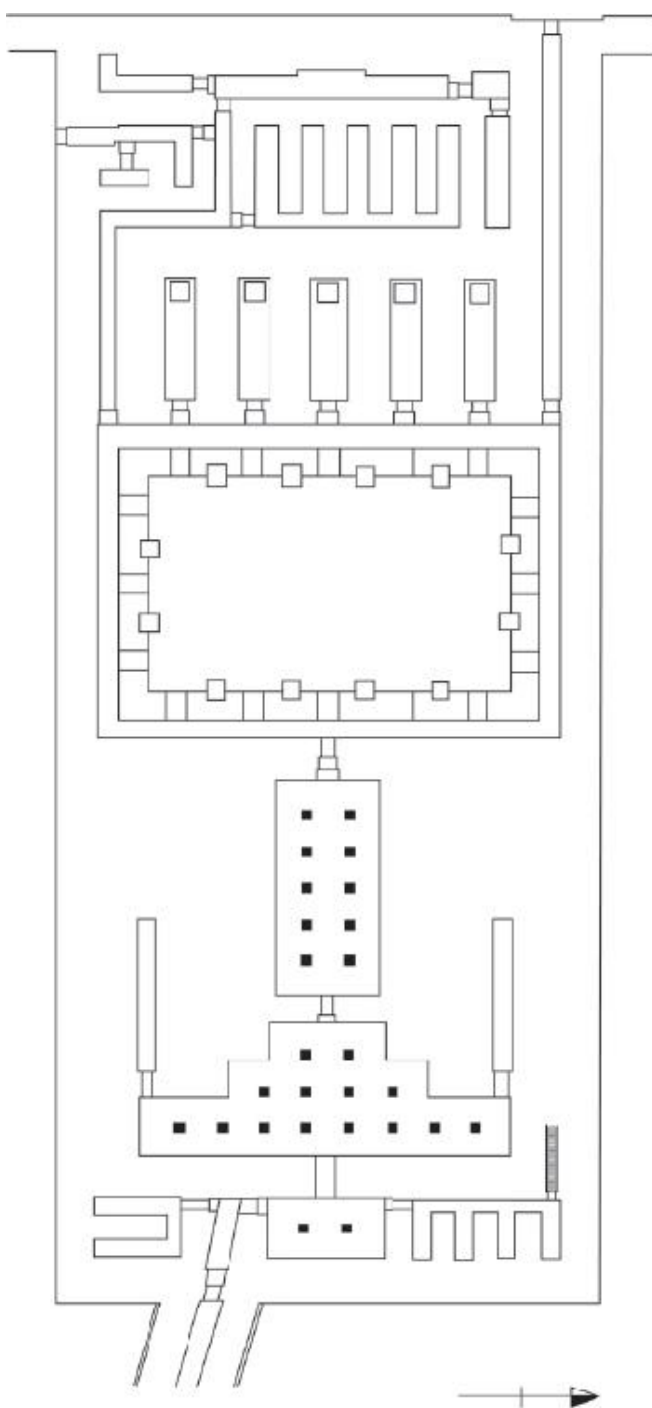


Fig. 5: Plan of Khafre's pyramid temple. Drawing by Tamara Bower after D. Arnold, in Shafer (ed.), Temples of Ancient Egypt, 53, fig. 15

Causeway

Khafre's causeway, 494 m in length,¹¹⁴ leads down to the valley temple (see Fig. 1). Several relief fragments are assigned to Khafre's causeway. A relief fragment depicting a goddess facing left, measuring 30 × 40 cm, and holding a sceptre in her right outstretched hand and an ankh in her left (Pelizaeus Museum, Hildesheim 3185) was discovered in the G I S Cemetery and assigned by Junker to Khafre's causeway.¹¹⁵ Karl Martin, however, places it either in Khufu's or Khafre's causeway, since it bears iconography relating to a king's or a god's temple rather than imagery associated with a private tomb.¹¹⁶ Fragments from Unas' causeway depict similar iconography, confirming Khafre's causeway as a possible context for the goddess relief.¹¹⁷ Another relief depicting a royal scene with a foreign captive, discovered by Hölscher in the debris of Khafre's valley temple and measuring 50 × 70 cm,¹¹⁸ is generally assigned to that king's pyramid temple or causeway based on the granite construction of the valley temple. However, it is also believed that it may have originated in Khufu's pyramid complex.¹¹⁹ Images of 'bound' foreigners are associated with Sahure's causeway and valley temple.¹²⁰ In Unas' causeway, reconstructed scenes close to the valley temple show Egypt's triumph over foreigners, including Libyan and Asiatic prisoners.¹²¹ Based on this evidence, Hölscher's relief could have originated in Khafre's causeway.



Fig. 6: Exterior chapel with statue niches (G 7430) in Minkhaf's mastaba, Eastern Cemetery (G 7000). Photo L. Flentye

Valley Temple

Khafre's valley temple measures 45 × 46 m, and has granite-lined walls, granite pillars and architraves, and an Egyptian alabaster floor (Fig. 8).¹²² In the façade are two doorways with associated inscriptions; the northern doorway was inscribed with *mrj b3stt ʿnh dt*.¹²³ The goddess Bastet is

considered to be the mother of the king in the Pyramid Texts, and is associated with Bubastis in the north.¹²⁴ The southern doorway bears the text *mrj hwt-hr [ꜥnh dt]*.¹²⁵ Hathor is considered to be both a mother and wife of the king as well as Horus, and is associated with Dendara in the south.¹²⁶ On either side of the doorways, there is evidence for statues of sphinxes or lions.¹²⁷ Scholars have suggested that the dyad of Khafre and Bastet (CG 11) was located in the recess of the northern doorway, corresponding with the doorway inscription (Fig. 9).¹²⁸ Although partially preserved, the statue's reconstructed width would fit the niche (Fig. 10).¹²⁹ It is also suggested that this dyad was counterbalanced in the southern niche by a dyad of Khafre and Hathor,¹³⁰ corresponding with the inscription associated with this doorway. However, fragments of a large, black granite baboon were found in the southern entrance.¹³¹ The height of these niches is 2.10 m,¹³² and would indicate a large, probably standing statue rather than a seated one.



Fig. 7: Striding statue of Khafre (CG 16), greywacke, Egyptian Museum, Cairo. Photo L. Flentye

The interior of the valley temple consists of a vestibule and a T-shaped hall with sixteen granite pillars (see Fig. 8). Twenty-three statues lined the walls, based on the sockets in the floor of the T-shaped hall in a pattern of 3-7-3-7-3, with smaller statues placed among the 23 (Fig. 11).¹³³ Auguste Mariette discovered a number of statues in a pit in the valley temple in 1860,¹³⁴ and Hölscher also found fragments of Egyptian alabaster statues in the statue emplacements.¹³⁵ Hölscher believed that the statues stood 10 to 20 cm from the wall, and their bases were on average 110 × 60 cm.¹³⁶ However, it is apparent that the statue bases do vary. CG 17, a greywacke cubic seat statue, has a base with a width of only 36.5 cm.¹³⁷

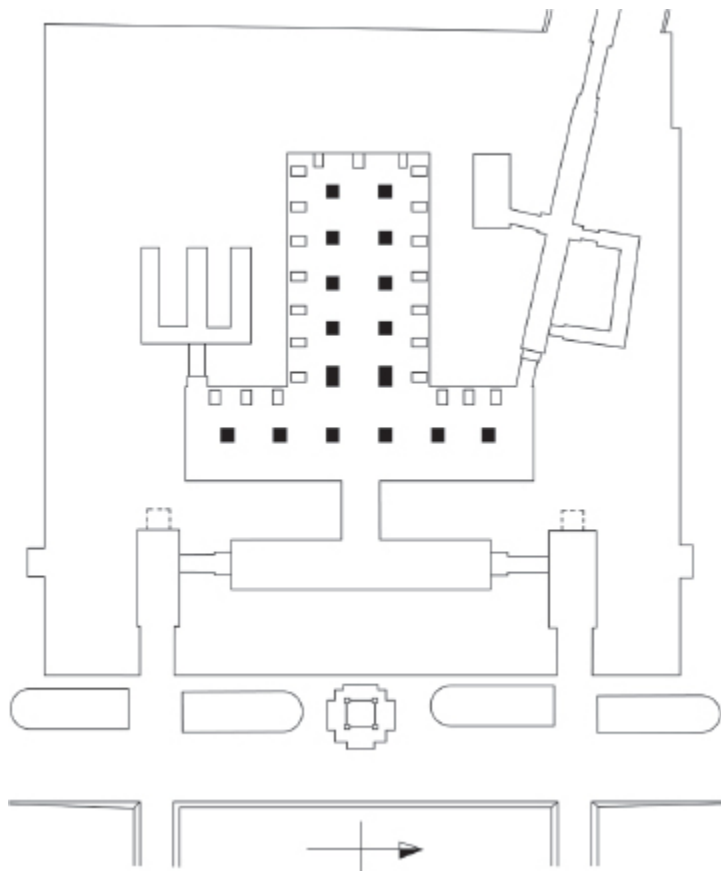


Fig. 8: Plan of Khafre's valley temple. Drawing by Tamara Bower after D. Arnold, in Shafer (ed.), Temples of Ancient Egypt, 52, fig. 14

Matthias Seidel has reconstructed the statuary programme of Khafre's valley temple with CG 14 in the central position on the west.¹³⁸ This is an anorthosite gneiss statue, with the open-winged falcon and Khafre's Golden

Horus name; to its right, he places CG 9,¹³⁹ another anorthosite gneiss statue, with a standing falcon with closed wings perched sideways above the serekh with Khafre's Horus name, similar to a statue of Pepy I (Brooklyn Museum 39.120).¹⁴⁰ A corresponding statue was placed to CG 14's left. In the central position on the north and south walls, he places CG 13, an anorthosite gneiss statue, and a (now lost) corresponding statue. This reconstruction is based on the fact the king of CG 13 is not shown wearing the *nemes* but presumably in coordination with the opposite facing statue wore either the crown of the north or south.¹⁴¹



*Fig. 9: Khafre's valley temple, detail of northern doorway on east façade.
Photo L. Flentye*



Fig. 10: Dyad of Khafre and Bastet (CG 11), anorthosite gneiss, Egyptian Museum, Cairo. Photo L. Flentye

However, Seidel's reconstruction does not stress how the materials might relate to the geography of Egypt, nor the relevance of the titles. When combining these two factors, it is apparent that the title *z3 r* or the epithet *mi r' nh dt*¹⁴² occur on the preserved greywacke statues (CG 15–17): this material is associated with the Eastern Desert¹⁴³ and these statues may possibly have had an easterly facing position in the temple connected to the rising sun (Fig. 12). In this respect, the choice of material might be related to the wall or direction within the valley temple: Egyptian alabaster against the north wall facing south, 'Chephren diorite' or anorthosite gneiss against the south wall facing north, and greywacke in the wide hall with statue emplacements facing to the east. Against this, Hassan also discovered an Egyptian alabaster base from a statue east of the valley temple with the title *z3 r*, but without a cartouche.¹⁴⁴ Possibly the statues mentioning Re were located in the wide hall or vestibule facing east. However, this leaves the west wall without an associated material. It is apparent that the central niche on the west wall is the largest,¹⁴⁵ and perhaps CG 14 was placed in this niche. Further research coordinating the size of the statue bases with the statue emplacements should provide additional information regarding the layout of Khafre's statuary programme.



Fig. 11: Khafre's valley temple, detail of statue emplacements in the wide hall. Photo L. Flentye

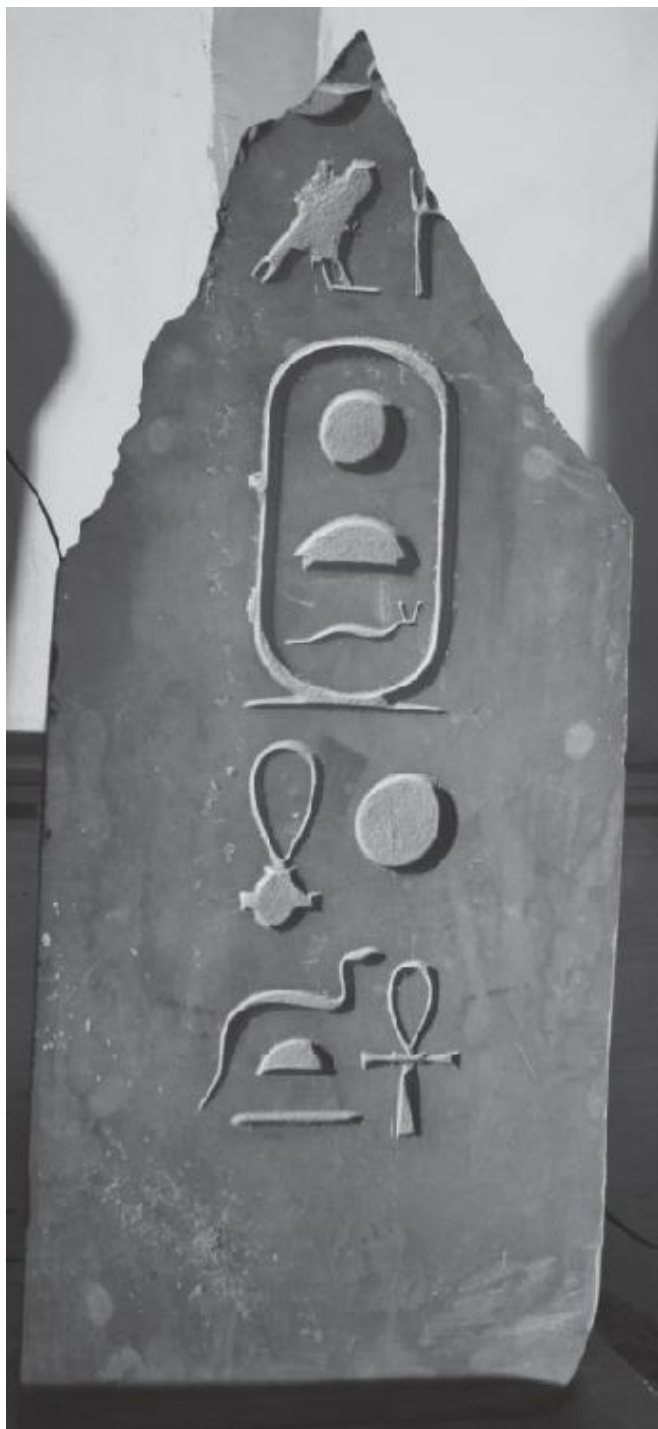


Fig. 12: Back of striding statue of Khafre (CG 16), detail of inscription, Egyptian Museum, Cairo. Photo L. Flentye

Two other important factors regarding the statuary programme in Khafre's valley temple are the types of statues and the design of the Sematawy emblem. Firstly, with regard to the types of statues, there are two distinct categories among the preserved 'Chephren diorite' or anorthosite gneiss statues found in the valley temple: 1) statues with lion-legged thrones and back supports (CG 9, 13, and 14) and 2) statues with cubic seats (including CG 10 and reconstructed CG 12) (Fig. 13, Fig. 14). This would suggest that there were distinct groups of statues, despite the similarity of material. Secondly, there are variations in the design of the Sematawy emblem on the sides of the seat. The first variation depicts the lily (lotus) to the front and the papyrus to the back on the sides of the 'Chephren diorite' or anorthosite gneiss lion-legged thrones (including CG 9, 13, and 14).¹⁴⁶ On CG 10, an anorthosite gneiss cubic seat statue, their positions differ: on the right side of the throne, the papyrus is depicted to the front and the lily is to the back; while, on the left side, the lily is to the front and the papyrus to the back.¹⁴⁷ On the greywacke cubic seat statues (CG 15 and 17), there are also differentiations between the right and left sides of the throne. On CG 15, the papyrus is shown to the front and the lily to the back on both sides; while, on CG 17, the lily is to the front and papyrus to the back on the right side, and the papyrus is to the front and the lily is to the back on the left.¹⁴⁸ Additionally, on the back of CG 10, the papyrus is on the left and the *šmꜣw* plant on the right; the *šmꜣw* plant also occurs on the left side of the dyad of Khafre and Bastet (CG 11) in the frontal position with the papyrus in the back.¹⁴⁹ The position of the lily, papyrus, and *šmꜣw* plant may be connected to the physical placement of the statue within the overall programme and its relationship to north and south, or at the very least connects groups of statues together.



Fig. 13: Seated statue of Khafre with open-winged falcon (CG 14), anorthosite gneiss, Egyptian Museum, Cairo. Photo from Catalogue Général



Fig. 14: Seated statue of Khafre (CG 10), anorthosite gneiss, Nubian Museum, Aswan. Photo L. Flentye

Conclusion

An analysis of the decorative programmes of the pyramid complexes of Khufu and Khafre at Giza suggests that they differ in their overall approach. The first major distinction is materials: basalt is used for Khufu's pavement and Egyptian alabaster for Khafre's. Scholars have suggested that basalt is a reference to the earth with the roofed area of the temple decorated with stars

in imitation of the sky.¹⁵⁰ By contrast, Egyptian alabaster paving may be connected to ritualistic aspects, particularly as there were so many statues in Khafre's complex. The use of Egyptian alabaster for the pavement also occurs in the inner chapel of Sahure's pyramid temple, including the floor of the five statue niches.¹⁵¹ Lehner has suggested that Egyptian alabaster is a material associated with purification,¹⁵² which might connect with the ritualistic aspects of the statuary programme. Certainly, the limited lighting was probably enhanced by the shining alabaster floor. The use of 'Chephren diorite' or anorthosite gneiss for statuary also characterises Khafre's reign, possibly an ideological factor, in the same manner as Djedefre's use of red quartzite.¹⁵³

The second major distinction is the overall programmatic layout of the complexes. The reliefs associated with Khufu's complex reflect traditions from the third dynasty to the reign of Sneferu, such as the iconography of the *heb sed*.¹⁵⁴ Although Khafre's programme may have had such scenes, his layout emphasises the king's image through three-dimensional representation based on the finds of statuary associated with the pyramid and valley temples, as well as the statue emplacements. It is theorised that the twenty three statues in the valley temple may relate to the divinised parts of the king's body.¹⁵⁵ Theories concerning these statues divide the two main halls in the valley temple into different rituals with the statues in the 'broad hall' involved in a mummification ritual, while those in the 'deep hall' took part in an Opening of the Mouth ritual.¹⁵⁶ Certainly, there are other factors involved, namely the differentiation of the statues through their materials, iconography, and titles. The valley temple itself functions as an entity to ensure the king's identity and rebirth. The entrance inscriptions establish the king's divine descent, including possibly a distinction between north/Lower Egypt and south/Upper Egypt; the statues reaffirm the king's right to rule over Egypt, based on his various titles and epithets, which are fused with solar ideology. Lehner has suggested that the valley temple itself symbolises two different realms: the chthonic below and the solar above with the small courtyard on the south side of the roof.¹⁵⁷ If this were the case, then the temple itself becomes both a horizontal and vertical representation of creation and rebirth in the afterlife.

¹ I am grateful to Dr Zahi Hawass, Minister of State for Antiquities, and the Supreme Council for Antiquities (SCA) for permission to publish the photographs taken at Giza and in the Egyptian Museum, Cairo and the Nubian Museum, Aswan.

² For the reign lengths of Khufu through Khafre, see M. Verner, 'Contemporaneous Evidence for the Relative Chronology of Dyns. 4 and 5', in E. Hornung, R. Krauss, and D. A. Warburton (eds), *Ancient Egyptian Chronology* (Handbook of Oriental Studies. Section 1. The Near and Middle East; Leiden 2006), 127, 131–134. Recent theories, however, have

proposed a longer reign length for Djedefre (M. Valloggia, 'Le complexe funéraire de Rêdjédef à Abou Rawash: état des travaux après dix campagnes (1995–2004)', *BSFE* 161 (2004), 13).

³ D. Arnold, *The Encyclopaedia of Ancient Egyptian Architecture*, S. H. Gardiner and H. Strudwick (trans.) and N. and H. Strudwick (eds) (London 2003), 126.

⁴ For the basalt paving, see J. K. Hoffmeier, 'The Use of Basalt in Floors of Old Kingdom Pyramid Temples', *JARCE* 30 (1993), 118–119; Arnold, *Encyclopaedia*, 27–28.

⁵ For the court and granite pillars, see M. Lehner, *The Complete Pyramids* (Cairo 1997), 109.

⁶ Do. Arnold in Do. Arnold et al., *Egyptian Art in the Age of the Pyramids* (New York 1999), 98.

⁷ Z. Hawass, 'The Programs of the Royal Funerary Complexes of the Fourth Dynasty', in D. O'Connor and D. P. Silverman (eds), *Ancient Egyptian Kingship* (PdÄ 9; Leiden-New York-Köln 1995), 226. Also, see M. Lehner, 'The Development of the Giza Necropolis: The Khufu Project', *MDAIK* 41 (1985), 119, 120 (B6), [fig. 3B](#).

⁸ For Herodotus' account of the decoration, see *Histories* II, 124.

⁹ The route of the causeway turns 32 degrees to the north (Hawass, in O'Connor and Silverman (eds), *Ancient Egyptian Kingship*, 226).

¹⁰ The route of the causeway was exposed not only during Goyon's excavations in the 1960s, but also during the project to install a sewer system in Nazlet el-Simman in the late 1980s (G. Goyon, 'La chaussée monumentale et le temple de la vallée de la pyramide de Khéops', *BIFAO* 67 (1969), 49–69; also Hawass, in O'Connor and Silverman (eds), *Ancient Egyptian Kingship*, 226).

¹¹ Hawass, in O'Connor and Silverman (eds), *Ancient Egyptian Kingship*, 224–225.

¹² W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom* (London 1946; reprint, New York 1978), 157 n. 1, 158, 361; S. Hassan, *Excavations at Giza X. Season 1938–39, The Great Pyramid of Khufu and its Mortuary Chapel* (Cairo 1960), 17, 23. Also, see L. A. Flentye, *The Decorated Elite Mastaba and Rock-cut Tomb in the Eastern and GIS Cemeteries at Giza and their Relationship to the Development of Art during the Fourth Dynasty* (PhD diss., New York University 2006), 243, 245.

¹³ Smith, *History of Egyptian Sculpture and Painting*, 158; G. A. Reisner and W. S. Smith, *A History of the Giza Necropolis*, vol. II, *The Tomb of Hetep-heres The Mother of Cheops* (Cambridge, Mass. 1955), 4–5, figs 2–4, 7. For a list of the fragments, see Reisner and Smith, *Giza* II, 4 n. 5, 5 n. 6. Also, see A. Oppenheim, 'Decorative Programs and Architecture in the Pyramid Complexes of the Third and Fourth Dynasties', in P. Jánosi (ed.),

Structure and Significance: Thoughts on Ancient Egyptian Architecture (DGÖAW 33; Vienna 2005), 466, 468. For the excavation dates of the fragments discovered in the area of Khufu's causeway and the queens' pyramids, see P. D. Manuelian in Arnold et al., *Egyptian Art*, 147–148. Also, see <http://www.gizapyramids.org>, accessed 28/01/10.

¹⁴ Reisner and Smith, *Giza II*, 5. The fragments found in the area of the three queens' pyramids are assigned by Zahi Hawass to the chapels of these pyramids rather than Khufu's pyramid complex. For this attribution, see Z. A. Hawass, *The Funerary Establishments of Khufu, Khafra and Menkaura during the Old Kingdom* (PhD diss., University of Pennsylvania 1987; UMI), 44–45.

¹⁵ Reisner and Smith, *Giza II*, 4, 5 n. 6, [fig. 7](#).

¹⁶ Other fragments found north of Queen's Pyramid GI-b and in the area of the causeway include: a red granite fragment with a hawk in sunk relief (MFA 24-11-548), a partial representation of a vulture protecting the king (MFA 37-3-4c), a hawk from an inscription (MFA 37-3-4d), and a man carrying a half-sky sign (MFA 37-3-4h) (Reisner and Smith, *Giza II*, 5 n. 6 (1–8), [fig. 7](#)). Also, see A. Ćwiek, *Relief Decoration in the Royal Funerary Complexes of the Old Kingdom* (PhD diss., Warsaw University 2003), 94 n. 372).

¹⁷ This fragment is now MFA 24.2709 (Reisner and Smith, *Giza II*, 5, 5 n. 6 (14), [fig. 7](#)).

¹⁸ Reisner and Smith, *Giza II*, 5 n. 6 (14).

¹⁹ For fragments of relief with Khufu [...], the name of Meretites' daughter, see a block assigned to the southern section of the embrasure (no MFA number) and MFA 29-7-22 which is part of MFA 37.2620 assigned to the northern section of the east wall in the chapel. Also, a block in the Calouste Gulbenkian Museum, Lisbon has the partially preserved name of Khufu [...], which is assigned to the northern section of the west wall (M. H. Trindade Lopes, 'Relief Block from the Tomb of Princess Merit-ites and Akhti-hetep', in K. Baetjer and J. D. Draper (eds), *"Only the Best": Masterpieces of the Calouste Gulbenkian Museum, Lisbon* (New York 1999), 24 (6)).

²⁰ E. Chassinat, 'A propos d'une tête en grès rouge du roi Didoufré (IVe Dynastie) conservée au Musée du Louvre', *Mon Piot* 25 (Paris 1921–1922), 57, 64, [fig. 1](#); Smith, *History of Egyptian Sculpture and Painting*, 33, pl. 10d. Also M. Baud, *Famille royale et pouvoir sous l'Ancien Empire égyptien*. I (2 vols, BdE 126; Cairo 1999), 232, 372.

²¹ L. Borchardt, *Das Grabdenkmal des Königs Sāshu-re II. Die Wandbilder* (WVDOG 26; Leipzig 1913), 29–30, Abb. 16. Also, see Baud, *Famille royale et pouvoir* I, 232–233.

²² P. Posener-Kriéger, *Les Archives du temple funéraire de Néferirkarêkakaï (Les papyrus d'Abousir)*, *Traduction et Commentaire*, vol.

II (BdE 65/2; Cairo 1976), 530–531, fig. 34; M. Verner, *Abusir III: The Pyramid Complex of Khentkaus*, Excavations of the Czech Institute of Egyptology (Prague 1995), pl. 32, fig. 82; See also Baud, *Famille royale et pouvoir* I, 233.

²³ L. Borchardt, *Das Grabdenkmal des Königs Ne-user-re* (WVDOG 7; Leipzig 1907), 72 (3, 2; 4, 1; 5; 6), 76, Abb. 51b; Baud, *Famille royale et pouvoir* I, 233; II, 621–622 [273].

²⁴ See Reisner and Smith, *Giza* II, 4–5 for a discussion of these fragments. Two relief fragments, one depicting a band of water with paddles (MFA 24-12-14; now MFA 24.2686) discovered north of Queen's Pyramid GI-a (Reisner and Smith, *Giza* II, 5 n. 6 (10), [fig. 7](#)) and another showing the blades of two oars (MFA 24-11-889; now MFA 24.2658) found west of Kawab's mastaba (G 7110/7120) (Reisner and Smith, *Giza* II, 5 n. 6 (9), [fig. 7](#)), may indicate that boats were an important aspect of Khufu's pyramid complex if the fragments come from there. Boats with paddles do occur in the pyramid temple of Userkaf (A. Labrousse and J.-P. Lauer, *Les complexes funéraires d'Ouserkaf et de Néferhétepès* (2 vols, BdE 130; Cairo 2000), I, 70–72 (Doc. 14) and II, 43–44, figs 80, 81).

²⁵ Reisner and Smith, *Giza* II, 4–5, 5 n. 6 (12), [fig. 7](#); Ćwiek, *Relief Decoration*, 94 n. 372, 197.

²⁶ For the *pr-nzr* and Buto, see A. Fakhry, *The Monuments of Sneferu at Dahshur*, vol. II, *The Valley Temple*, part I, *The Temple Reliefs* (Cairo 1961), 61; *LÄ* IV, col. 932–933.

²⁷ These inscriptions occur on Pillar B, side no. 1; Pillar D, side no. 2; and fragments (Fakhry, *The Monuments of Sneferu at Dahshur* II.1, 71, 73, 74, 85, 88, 90, 91, 165, 166, figs 48, 52, 72, 77, 270, pl. XXVA; Ćwiek, *Relief Decoration*, 196, fig. 55).

²⁸ Fakhry, *The Monuments of Sneferu at Dahshur* II.1, 91.

²⁹ Ćwiek, *Relief Decoration*, 197.

³⁰ Reisner and Smith, *Giza* II, 4, 5 n. 6 (6), [fig. 7](#).

³¹ For the relief showing two goats (MMA 22.1.20), see H. Goedicke, *Re-used Blocks from the Pyramid of Amenemhet I at Lisht* (Publications of the Metropolitan Museum of Art Egyptian Expedition 20; New York 1971), 133–134 (80); Do. Arnold in Arnold et al., *Egyptian Art*, 227–228 (42). Differences in the representation of the goat on the Giza fragment (MFA 37-3-4b) as compared with the goats on the reused Lisht relief (MMA 22.1.20) were noted, particularly the presence of a tuft of hair on the goat's neck on the Giza fragment (MFA 37-3-4b) (Oppenheim, in Jánosi (ed.), *Structure and Significance*, 468).

³² These images are located in the 'Säulenhof' (Borchardt, *Sasbu-re* II, 13, 17, Bl. 1, 4).

³³ A fragment discovered near the valley temple at the beginning of the causeway depicts a herd of goats and sheep (A. Labrousse and A. M.

Moussa, *Le temple d'accueil du complexe funéraire du roi Ounas* (BdE 111; Cairo 1996), 97–98 (Doc. 57), fig. 98, pl. XV).

³⁴ A. Labrousse and A. Moussa, *La chaussée du complexe funéraire du roi Ounas* (BdE 134; Cairo 2002), 53 (Doc. 55, A–C), 157, fig. 71, pl. XIb.

³⁵ For reliefs excavated by Hassan, see Reisner and Smith, *Giza II*, 4, figs 5, 6; Hassan, *Gîza X*, 17, 20–24, 34–35, figs 2–4, 7–8, pls V–VII, VIIIB.

³⁶ Hassan, *Gîza X*, 20, 21–24, fig. 4, pl. VI.

³⁷ Reisner and Smith, *Giza II*, 4, figs 5, 6. Hawass also reconstructs the *heb sed* scenes in the pyramid temple (Hawass, *Funerary Establishments*, 514 (1), 803, plan 35).

³⁸ Hassan, *Gîza X*, 21–22, fig. 4, pl. VIA. Also, see W. M. F. Petrie, *The Palace of Apries (Memphis II)* (BSAE 15; London 1909), 11, pls VII, IX; Ćwiek, *Relief Decoration*, 94 n. 374; Oppenheim, in Jánosi (ed.), *Structure and Significance*, 466, 467, fig. 5.

³⁹ For *Hb-HDt*, see Ćwiek, *Relief Decoration*, 94 n. 374, 196–197, particularly 197 n. 813. Also, see A. Behrmann, *Das Nilpferd in der Vorstellungswelt der Alten Ägypter*, part I, *Katalog* (Europäische Hochschulschriften, Reihe XXXVIII, vol. 22; Frankfurt am Main·Bern·New York·Paris 1989), Dok. 62.

⁴⁰ For the Bab el-Futtúh relief, see M. S. Drower, 'Egyptian Fragments', in 'Notes and News', *Antiquity* 9 (1935), 350, pl. VIII; J. Capart, 'Le Caire', in 'Nouvelles', *CdE* 11 (1936), 468–469; Behrmann, *Das Nilpferd* I, Dok. 63. Hawass reconstructs the Bab el-Futtúh relief in the portico of Khufu's pyramid temple based upon its appearance in the *pr-wrw* 'house of the great ones' of Pepy II (Hawass, *Funerary Establishments*, 515, 519, 803, plan 35).

⁴¹ Hassan reconstructed the two registers behind Khufu with two figures each (Hassan, *Gîza X*, 22, fig. 4). Reisner and Smith, however, placed only one figure on each register (Reisner and Smith, *Giza II*, fig. 5).

⁴² *heb sed* scenes are located in the pyramid temples of Userkaf, Sahure, Niuserre, and Unas. For Userkaf's pyramid temple, see Labrousse and Lauer, *Ouserkaf* I, 120–123 (Doc. 191–196) and II, 82–83, figs 263a–b – 268a–b. For Sahure's pyramid temple, Ćwiek, *Relief Decoration*, 115, 230, 237–238, fig. 71. For Niuserre's pyramid temple, see Borchardt, *Ne-user-re*, 85, Abb. 62a. For Unas' pyramid temple, see A. Labrousse, J.-Ph. Lauer, and J. Leclant, *Le temple haut du complexe funéraire du roi Ounas* (BdE 73; Cairo 1977), 85 (Doc. 29), fig. 55, pl. XXXI; 86 (Doc. 31), fig. 57, pl. XXXI; 86 (Doc. 32), fig. 58, pl. XXXI; 87 (Doc. 33), fig. 59; 87 (Doc. 34), fig. 60, pl. XXXI; 87 (Doc. 35), fig. 61, pl. XXXI; 112 (Doc. 79), fig. 105, pl. XXXVI. Also, see Ćwiek, *Relief Decoration*, 111, 123, 128, 237.

⁴³ Reisner and Smith, *Giza II*, 4, figs 6a–b; Hassan, *Gîza X*, 23, pl. VIB; Ćwiek, *Relief Decoration*, 233–234.

⁴⁴ For a discussion of the headdress and the attached hawk, see C. H.

Roehrig in Arnold et al., *Egyptian Art*, 254 (57).

⁴⁵ L. Borchardt, 'Einzelfunde', in U. Hölscher, *Das Grabdenkmal des Königs Chephren* (Leipzig 1912), 103 (59), Abb. 143; R. Krauspe, *Katalog Ägyptischer Sammlungen in Leipzig I, Statuen und Statuetten*, (Mainz am Rhein 1997), 39–40 (87), Taf. 29, 1. Although Borchardt and Krauspe believe the fragment belongs to a queen and the decorative element to be a vulture, Čweik has alternatively suggested that the fragment belonged to a statue of Khafre, and the small element is a falcon holding *Sn* rings in its claws based on the shape of the tail (*Relief Decoration*, 234 n. 993). However, the braiding of the individual's hair on the Egyptian alabaster fragment is more indicative of a female statue, suggesting a queen.

⁴⁶ Reisner and Smith, *Giza II*, fig. 6a; Hassan, *Giza X*, 23, pl. VIB.

⁴⁷ Hassan, *Giza X*, 35, [fig. 7](#), pl. VIIB.

⁴⁸ For the fragments that mention 'pyramid' or the name of Sneferu's pyramid, see Fakhry, *The Monuments of Sneferu at Dahshur II.1*, 155, 157, figs 234, 235.

⁴⁹ Fakhry, *The Monuments of Sneferu at Dahshur II.1*, 107, 108, fig. 111.

⁵⁰ Respectively, Borchardt, *Saḥu-re* II, 54–57, 115–116, Bl. 45–47; Labrousse, Lauer, and Leclant, *Le temple haut du complexe funéraire du roi Ounas*, 86 (Doc. 31), fig. 57, pl. XXXI.

⁵¹ Hassan, *Giza X*, 20, 34, pl. VIIA. The two fragments measure 35 × 30 cm when joined.

⁵² Hassan, *Giza X*, 34.

⁵³ Hassan, *Giza X*, 34, pl. VIIA.

⁵⁴ Čweik, *Relief Decoration*, 94 n. 374.

⁵⁵ Labrousse, Lauer, and Leclant, *Le temple haut du complexe funéraire du roi Ounas*, 88–89 (Doc. 37), particularly 89 n. 1, fig. 63, pl. XXXII.

⁵⁶ Borchardt, *Ne-user-re*, 38–39, Abb. 18.

⁵⁷ Fakhry, *The Monuments of Sneferu at Dahshur II.1*, 98, 99, figs 96–98; Čweik, *Relief Decoration*, 243–244.

⁵⁸ Hassan, *Giza X*, 20–21, 35, figs 2, 3, 8, pls V, VIIB.

⁵⁹ Hassan, *Giza X*, 20.

⁶⁰ Fakhry, *The Monuments of Sneferu at Dahshur II.1*, 151, 152, 164, figs 217, 219, 265, pl. XXXB.

⁶¹ Hassan, *Giza X*, 21, fig. 3, pl. VB.

⁶² Fakhry, *The Monuments of Sneferu at Dahshur II.1*, 71–72, 147, figs 48–50, 200.

⁶³ Hassan, *Giza X*, 21.

⁶⁴ Hassan, *Giza X*, 20, 35, fig. 8, pl. VIIB.

⁶⁵ Fakhry, *The Monuments of Sneferu at Dahshur II.1*, 110, figs 117a–c, 118, pl. XXIXA.

⁶⁶ Y. Harpur, *The Tombs of Nefermaat and Rahotep at Maidum: Discovery*,

Destruction and Reconstruction (Egyptian Tombs of the Old Kingdom I; Oxford 2001), 63, 64, 80–81, 82, 86, 87, figs 75, 81, 82, 86, pls 6, 18, 19, 20, 23, 35.

⁶⁷ Labrousse and Lauer, *Ouserkaf I*, 77 (1.2.1), 78–79 (1.2.1.2) (Doc. 35) and II, 49–50, 52, figs 99–100, 104a, b (Doc. 35). For marsh scenes in the pyramid complexes of Sahure and Niuserre, see Do. Arnold in Arnold et al., *Egyptian Art*, 94 and Ćwiek, *Relief Decoration*, 221, 222–223 (Sahure); *ibid.*, 223 (Niuserre).

⁶⁸ For the dates of the expedition, see Goedicke, *Re-used Blocks*, 1.

⁶⁹ For recent discussions of the decorative programmes of the royal pyramid complexes and the Lisht reliefs, see Hawass, *Funerary Establishments*, 514–522; Hawass, in O'Connor and Silverman (eds), *Ancient Egyptian Kingship*, 231–232. For the Lisht reliefs, see Goedicke, *Re-used Blocks*; Do. Arnold in Arnold et al., *Egyptian Art*, 222–28 (38–42); A. Oppenheim in *ibid.*, 228–29 (43). Also, see D. Stockfisch, *Untersuchungen zum Totenkult des ägyptischen Königs im Alten Reich: Die Dekoration der königlichen Totenkultanlagen 2* (Schriftenreihe Antiquitates 25; Hamburg 2003), 4.2.5–4.2.11.

⁷⁰ For a discussion of the reused Lisht blocks, see Oppenheim, in Jánosi (ed.), *Structure and Significance*, 464–465, particularly 465 n. 38, 468.

⁷¹ Goedicke, *Re-used Blocks*, 16–17 (3); Do. Arnold in Arnold et al., *Egyptian Art*, 226 (41).

⁷² Goedicke, *Re-used Blocks*, 13–16 (2).

⁷³ An inscription at the top refers to the Upper Egyptian shrine and 'coming forth from the horizon', Ćwiek, *Relief Decoration*, 160–161.

⁷⁴ Ćwiek, *Relief Decoration*, 160.

⁷⁵ According to Ćwiek, they are wearing *jst*-standards on their heads, a feature designating them as nomes (*Relief Decoration*, 160). However, Dorothea Arnold states that images on standards represented both nomes and estates from the third dynasty; however, figures replaced the poles, personifying the estate itself (in Arnold et al., *Egyptian Art*, 226). Finally, Dr Mohamed Ismael of the SCA has suggested that gods and goddesses wear the *jst*-standards on their heads, and do not represent nomes (Mohamed Ismael, personal communication).

⁷⁶ For these ties, see E. Staehelin, *Untersuchungen zur ägyptischen Tracht im Alten Reich* (MÄS 8; Berlin 1966), 168, particularly nn 7–8, pl. XLIII, fig. 69. Staehelin cites examples with these ties from the fifth dynasty, e.g. Sahure's pyramid complex (Borchardt, *Sahure-re* II, 10–15, 18–21, 38, 41–42, 43–45, Bl. 1, 5, 20, 25, 28, 29). However, they also appear earlier in Sneferu's statue-cult temple at Dahshur (Fakhry, *The Monuments of Sneferu at Dahshur* II.1, 71, 75, 97, 113, 114, figs 48, 54, 91, 93, 122, pl. XVIIa).

⁷⁷ See Borchardt, *Sahure-re* II, 43–45, 46, Bl. 28, 31; Do. Arnold in Arnold et al., *Egyptian Art*, 227 n. 7 for other comparanda.

⁷⁸ Do. Arnold in Arnold et al., *Egyptian Art*, 226. See D. Arnold, 'Royal Cult Complexes of the Old and Middle Kingdoms', in B. E. Shafer (ed.), *Temples of Ancient Egypt* (Ithaca 1997), 51 for the fragments assigned to Khufu's pyramid temple in relation to the decoration in Sneferu's statue-cult temple.

⁷⁹ Goedicke, *Re-used Blocks*, 16 (2), 17 (3); Hawass, *Funerary Establishments*, 516, 803, plan 35.

⁸⁰ Ćwiek, *Relief Decoration*, 160–161, particularly 160 nn 644 and 645, 266–267 n. 1156. Reconstructions of the upper end of Unas' causeway show the king enthroned and processions of estates (Labrousse and Moussa, *La chaussée du complexe funéraire du roi Ounas*, 48–50 (Docs. 46, 47), 82–84 (Doc. 91), 131, 153–154, 173, 174, figs 9, 60–63, 114, 115, pls ViiiA, XVic). Jéquier also reconstructed fragments found at the upper end of the south wall of Pepy ii's causeway with the king enthroned facing processions of personifications of the funerary domains (G. Jéquier, *Le monument funéraire de Pépi II*, vol. III, *Les approches du temple, Fouilles à Saqqarah* (Cairo 1940), 14–16, pls 19–20).

⁸¹ Above the cattle are perhaps the names of the estates from which the offerings originated combined with the cartouche of Khufu (Smith, *History of Egyptian Sculpture and Painting*, 157, pl. 39 (lower)).

⁸² When the cattle are overlapping, the iconography is more representative of booty from military campaigns (Do. Arnold in Arnold et al., *Egyptian Art*, 222 (38)).

⁸³ Dorothea Arnold assigns the relief to Khufu's pyramid or valley temples (Do. Arnold in Arnold et al., *Egyptian Art*, 223). Hans Goedicke assigns the relief to Khufu's valley temple (Goedicke, *Re-used Blocks*, 19).

⁸⁴ For Sahure's pyramid temple, see Borchardt, *Sahure-re* II, 65, Bl. 55. For Unas' valley temple, see Labrousse and Moussa, *Le temple d'accueil du complexe funéraire du roi Ounas*, 78 (Doc. 26), fig. 63, pl. XI. Also, see Do. Arnold in *Egyptian Art*, 223 n. 9. Relief fragments with cattle were also discovered in the pyramid temples of Userkaf and Niuserre (respectively, Labrousse and Lauer, *Ouserkaf I*, 92–93 (Doc. 75–77) and ii, 57, 58, 63, 64, figs 122, 123, 147a–b, 148a–b, 149; Borchardt, *Ne-user-re*, 80, Abb. 55).

⁸⁵ Hawass reconstructs the relief showing cattle in the causeway. He believes the scene depicts the 'royal offerings that came through the royal domain of the foreign countries' (*Funerary Establishments*, 517). Files of cattle are also assigned to the north wall of Unas' causeway (Labrousse and Moussa, *La chaussée du complexe funéraire du roi Ounas*, 52–53 (Doc. 53), 156, fig. 69, pl. Xb).

⁸⁶ Herodotus, *Histories* II, 124.

⁸⁷ See MFA photo A8294_NS for Smith's reconstruction.

⁸⁸ During Hassan's excavation of the northern boat pit in Khufu's pyramid

complex, he discovered a granite fragment from a statue, possibly representing Khufu (Hassan, *Giza* X, 37, pl. XiA).

⁸⁹ Smith originally described the head as basalt (Smith, *History of Egyptian Sculpture and Painting*, 31 (2b)). For Friedman's attribution, see F. D. Friedman, 'The Menkaure Dyad(s)', in S. E. Thompson and P. D. Manuelian (eds), *Egypt and Beyond: Essays Presented to Leonard H. Lesko upon his Retirement from the Wilbour Chair of Egyptology at Brown University, June 2005* (Providence 2008), 131, particularly nn 80, 82.

⁹⁰ Smith, *History of Egyptian Sculpture and Painting*, 20 (4), pl. 5a; W. K. Simpson, *The Mastabas of Qar and Idu: G 7101 and 7102* (Giza Mastabas 2; Boston 1976), 19, pl. XiVd, fig. 43; C. H. Roehrig in Arnold et al., *Egyptian Art*, 254 (57) for the *nemes* headdress.

⁹¹ Smith, *History of Egyptian Sculpture and Painting*, 20 (1, 2).

⁹² in Khafre's corpus of statuary, see, for example, JE 72213 (S. Hassan, *Excavations at Giza IX. Season 1936–37–38, The Mastabas of the Eighth Season and their Description* (Cairo 1960), 82 (1), pl. XXXVIIA, B; R. Stadelmann, 'Formale Kriterien zur Datierung der königlichen Plastik der 4. Dynastie', in N. Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire* (BdE 120; Cairo 1998), 355, 374, Foto 2a–c); Ägyptisches Museum, Universität Leipzig 1947 (C. Ziegler in Arnold et al., *Egyptian Art*, 260 (62)); and a small head of a king, probably Khafre, in the Collection of Nanette B. Kelekian, New York (Do. Arnold in Arnold et al., *ibid*, 261–262 (63)). in Menkaure's corpus of statuary, see MFA 11.280a–b (G. A. Reisner, *Mycerinus: The Temples of the Third Pyramid at Giza* (Cambridge, Mass. 1931), 37 (Jan. 27), 114 (48), pl. 63 (g–j)).

⁹³ The variety in the portrayal of Khafre throughout his pyramid complex was probably influenced by Djedefre's statuary programme, in which there was also a range of sizes as well as types. The seated image of Khafre with his right hand placed vertically on his lap holding an object and his left hand laid flat on his left thigh derives from the statuary of Djedefre, as well as from statues of Khufu's reign (for example, that of Hemunu). Like Khafre, Djedefre also had standing images with an inscribed back support. For Djedefre's statuary, see Smith, *History of Egyptian Sculpture and Painting*, 31–32; Stadelmann, in Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire*, 354–355, 358, 368, 369, 371, 372, 378, 384, Abb. 3, 6a, Fotos 8a–b, 19a–b; M. Baud, 'Études sur la statuaire de Rêdjedef, 1. Rapport préliminaire sur la collection de l'IFAO', in C. Ziegler and N. Palayret (eds), *L'Art de l'Ancien Empire égyptien* (Paris 1999), 37–61.

⁹⁴ Reisner, *Mycerinus*, 126.

⁹⁵ I am grateful to Dr Mohamed Ismael of the SCA for our discussions in which he concurred with the idea that Khufu's complex concentrated more on relief decoration than a statuary programme as in Khafre's pyramid complex.

- ⁹⁶ Manuelian in Arnold et al., *Egyptian Art*, 146.
- ⁹⁷ Arnold, *Encyclopaedia*, 121.
- ⁹⁸ Hölscher, *Chephren*, 25–30; Lehner, *The Complete Pyramids*, 124–125.
- ⁹⁹ Hölscher, *Chephren*, 26. According to Dieter Arnold, the wide and deep halls probably had statues of the king along their sides (Arnold, *Encyclopaedia*, 121).
- ¹⁰⁰ Hölscher, *Chephren*, 26.
- ¹⁰¹ For the statues in the court of the pyramid temple, see H. Ricke, *Bemerkungen zur ägyptischen Baukunst des Alten Reichs* II (BeiträgeBf 5; Cairo 1950), 48; Lehner, *The Complete Pyramids*, 125; D. Arnold in Arnold et al., *Egyptian Art*, 42–43.
- ¹⁰² Hölscher, *Chephren*, 27–28, Abb. 16, Bl. VI; Ricke, *Bemerkungen* II, 48. The absence of fragments of these statues is explained by their later reuse (Ricke, *Bemerkungen* II, 48).
- ¹⁰³ Ricke, *Bemerkungen* II, 50–52, Abb. 17, 19, Taf. 2.
- ¹⁰⁴ Ricke, *Bemerkungen* II, 50–51, Abb. 17–19. For the architrave, see Goedicke, *Re-used Blocks*, 23–24 (7). Goedicke also assigns the architrave to Khafre's pyramid temple.
- ¹⁰⁵ Goedicke, *Re-used Blocks*, 24; D. Arnold in Arnold et al., *Egyptian Art*, 264. A red granite fragment with a hawk in sunk relief (MFA 24-11-548), discovered near Khufu's pyramid temple, was believed by Reisner and Smith to have surmounted the Horus name of the king on a column in the court of Khufu's pyramid temple (Reisner and Smith, *Giza* II, 5 n. 6 (1), [fig. 7](#)).
- ¹⁰⁶ Ricke, *Bemerkungen* II, 51–52.
- ¹⁰⁷ D. Arnold in Arnold et al., *Egyptian Art*, 264. I am grateful to Peter Jánosi for emphasizing the inaccuracies related to Ricke's reconstruction.
- ¹⁰⁸ Lehner, *The Complete Pyramids*, 125, 238, 239; N. J. Conard and M. Lehner, 'The 1988/1989 Excavation of Petrie's "Workmen's Barracks" at Giza', *JARCE* 38 (2001), 39, 43 (3), 47, 59, [fig. 16](#), [tab. 1](#).
- ¹⁰⁹ Lehner, *The Complete Pyramids*, 125; H. Sourouzian, 'Standing royal colossi of the Middle Kingdom reused by Ramesses II', *MDAIK* 44 (1988), 229–254.
- ¹¹⁰ For CG 16, see L. Borchardt, *Statuen und Statuetten von Königen und Privatleuten im Museum von Kairo, Nr. 1–1294*, part 1 (Catalogue Général des Antiquités Égyptiennes du Musée du Caire, vol. 53; Berlin 1911), 17, Bl. 4 (16); Stadelmann, in Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire*, 355, 374, Foto 1a–c. For JE 72213, see Hassan, *Giza* IX, 82 (1), pl. XXXVIIA, B; Stadelmann, *op. cit.*, 355, 374, Foto 2a–c.
- ¹¹¹ Lehner, *The Complete Pyramids*, 125; Oppenheim, in Jánosi (ed.), *Structure and Significance*, 470.
- ¹¹² Oppenheim, in Jánosi (ed.), *Structure and Significance*, 469.
- ¹¹³ Hölscher, *Chephren*, 28; Lehner, *The Complete Pyramids*, 125;

Oppenheim, in Jánosi (ed.), *Structure and Significance*, 469.

¹¹⁴ Arnold, *Encyclopaedia*, 46.

¹¹⁵ The fragment was discovered adjacent to Kaemnefret's mastaba (G II S: H. Junker, *Giza X. Grabungen auf dem Friedhof des Alten Reiches bei den Pyramiden von Giza*, vol. X, *Der Friedhof südlich der Cheops pyramide. Westteil* (DÖAW 74,1; Vienna 1951), 38–40, Abb. 17, Taf. XVIa). For a discussion of the relief, see Oppenheim, in Jánosi (ed.), *Structure and Significance*, 475.

¹¹⁶ K. Martin, *Reliefs des Alten Reiches*, part 2 (CAA, Pelizaeus Museum, Hildesheim, Lieferung 7; Mainz 1979), 118–120.

¹¹⁷ Labrousse and Moussa, *La chaussée du complexe funéraire du roi Ounas*, 94 (Doc. 102), 95 (Doc. 103), 96 (Doc. 104), 96–97 (Doc. 105 A–D), 171, 180, 182, 183, 192, figs 110, 130, 134–136, 137, 157, pls XVIIIb, c.

¹¹⁸ G. Steindorff, 'Die übrigen Fundstücke', in Hölscher, *Chephren*, 110–111, Abb. 162, 163; Do. Arnold in Arnold et al., *Egyptian Art*, 265; Oppenheim, in Jánosi (ed.), *Structure and Significance*, 469–470.

¹¹⁹ Goedicke, *Re-used Blocks*, 10. I agree with Dorothea Arnold that this relief does not belong stylistically to Khufu's complex but is originally from Khafre's complex (Do. Arnold in Arnold et al., *Egyptian Art*, 267 n. 13).

¹²⁰ Borchardt, *Sähu-re* II, 18–23, Bl. 5–7 (causeway); 8 (valley temple); Do. Arnold in Arnold et al., *Egyptian Art*, 94.

¹²¹ Labrousse and Moussa, *La chaussée du complexe funéraire du roi Ounas*, 19–20, 131, 134, 135, figs 9, 14, 15.

¹²² Hölscher, *Chephren*, 42–46; Arnold, *Encyclopaedia*, 121.

¹²³ Hölscher, *Chephren*, 15, 16–17, Abb. 5, 7–8; the northern doorway appears on pp 16–17, Abb. 8.

¹²⁴ PT 508, §1111; LÄ I, col. 628–629.

¹²⁵ Hölscher, *Chephren*, 16–17, Abb. 7.

¹²⁶ R. H. Wilkinson, *The Complete Gods and Goddesses of Ancient Egypt* (Cairo 2003), 140, 141, 143; LÄ II, col. 1024.

¹²⁷ Hölscher, *Chephren*, 15, 16, Abb. 5; Lehner, *The Complete Pyramids*, 126; Arnold, *Encyclopaedia*, 121.

¹²⁸ Borchardt, *Statuen und Statuetten* I, 11–12, Bl. 3 (11); M. Seidel, *Die königlichen Statuengruppen*, vol. I: *Die Denkmäler vom Alten Reich bis zum Ende der 18. Dynastie* (HÄB 42; Hildesheim 1996), 19–20, 21, Abb. 9, Taf. 4a. The material chosen for this statue, 'Chephren diorite' or anorthosite gneiss, is a stone from the south – as opposed to the northerly association of Bastet.

¹²⁹ The niche's width is 1.60 m (Hölscher, *Chephren*, 42; Seidel, *Die königlichen Statuengruppen* I, 20).

¹³⁰ Seidel, *Die königlichen Statuengruppen* I, 20.

¹³¹ Fragments of the baboon were also found in front of the façade of the

valley temple as well as in the causeway (Hölscher, *Chephren*, 42). The Pyramid Texts mention the baboon god Babi, a 'guardian of the sky', to whose power the king aspires in the afterlife (PT 320, §515–516; Wilkinson, *The Complete Gods and Goddesses of Ancient Egypt*, 196).

¹³² Hölscher, *Chephren*, 42; Seidel, *Die königlichen Statuengruppen* I, 20.

¹³³ D. Arnold in Arnold et al., *Egyptian Art*, 41.

¹³⁴ Borchardt, *Statuen und Statuetten* I, 9–19, Bl. 3–5 (9–17); PM III², 21–23. Fragments of statues were also found in various parts of the Giza Necropolis, including the area around the valley temple (PM III², 23–25).

¹³⁵ Hölscher and Borchardt, in *Chephren*, 44, 96 (14), Abb. 96.

¹³⁶ Hölscher, *Chephren*, 44.

¹³⁷ The statue emplacements are rectangular shaped, although CG 10, now in the Nubian Museum in Aswan, has a base with a rounded front, confirming that not all the statue bases are identical.

¹³⁸ Seidel, *Die königlichen Statuengruppen* I, 21, 22, 23, 24, Abb. 9, 10, 11. Also, see E. Blumenthal, 'Den Falken im Nacken: Statuentypen und göttliches Königtum zur Pyramidenzeit', *ZÄS* 130 (2003), 2, 20, 24, Taf. I.

¹³⁹ Seidel, *Die königlichen Statuengruppen* I, 21, 22, 23, 24, Abb. 9, 10, 11. Also, see Blumenthal, *ZÄS* 130 (2003), 20, Taf. V.

¹⁴⁰ J. F. Romano, 'Sixth Dynasty Royal Sculpture', in Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire*, 240–242, 288–290, figs 8–19. Also, see Blumenthal, *ZÄS* 130 (2003), 19–20, Taf. IV.

¹⁴¹ For CG 13, see Seidel, *Die königlichen Statuengruppen* I, 21, 22, 23, 24, Abb. 9, 10, 11.

¹⁴² For the titles and epithet with Re, see Borchardt, *Statuen und Statuetten* I, 16–19 (15–17), Bl. 4–5 (15–17). See H. W. Müller, 'Der Gute Gott Radjedef, Sohn des Rê', *ZÄS* 91 (1964), 131–133, Taf. III (6) for fragments from Djedefre's complex with similar inscriptions.

¹⁴³ For the location of greywacke quarries, see B. G. Aston, J. A. Harrell, and I. Shaw, 'Stone', in P. T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge 2000), 57–58.

¹⁴⁴ Hassan, *Gîza* IX, 39 (8, top), pl. XIV.

¹⁴⁵ Discussed in Lehner, *The Complete Pyramids*, 126.

¹⁴⁶ For a discussion of the sides of the thrones of CG 9, CG 13, and CG 14, see Borchardt, *Statuen und Statuetten* I, 9–10, 13–16, Bl. 3 (9), 4 (13, 14).

¹⁴⁷ For CG 10, see Borchardt, *Statuen und Statuetten* I, 10–11, Bl. 3 (10). In contrast to CG 10, TR 25.11.18.4, a gneiss cubic seat statue discovered in Fustat, has the same design for the Sematawy emblem as the statues with the lion-legged thrones, with the lily to the front and the papyrus to the back (Stadelmann, in Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire*, 359–360, 379, Foto 9a–c).

¹⁴⁸ Borchardt, *Statuen und Statuetten* I, 16–17, 18–19, Bl. 4 (15), 5 (17).

¹⁴⁹ Borchardt, *Statuen und Statuetten* I, 10–12, Bl. 3 (10, 11).

¹⁵⁰ Hoffmeier, *JARCE* 30 (1993), 122, 123.

¹⁵¹ L. Borchardt, *Das Grabdenkmal des Königs Sankhu-re I, Der Bau* (WVDOG 14; Leipzig 1910), 21; Lehner, *The Complete Pyramids*, 144.

¹⁵² Lehner, *The Complete Pyramids*, 126.

¹⁵³ I am grateful to Vassil Dobrev for discussions regarding Djedefre's use of red quartzite and its solar connotations.

¹⁵⁴ See Oppenheim, in Jánosi (ed.), *Structure and Significance*, 455–464, 474 for a discussion of the development of the decorative programmes of the third and early fourth dynasties.

¹⁵⁵ Ricke, *Bemerkungen* II, 98.

¹⁵⁶ Ricke, *Bemerkungen* II, 96–99; S. Schott, *Bemerkungen zum Ägyptischen Pyramidenkult* (BeiträgeBf 5, no. 2; Cairo 1950), 178–180; D. Arnold in Arnold et al., *Egyptian Art*, 49 particularly n. 13.

¹⁵⁷ The solar aspect is created through the rooftop arrangement (Lehner, *The Complete Pyramids*, 126).

Reading the Menkaure Triads: Part II (Multi-directionality)

Florence Dunn Friedman

Introduction¹

This article builds on a previous one which began a discussion of the greywacke triads from King Menkaure's valley temple at Giza.² George Andrew Reisner, who excavated and published the temple,³ found four intact triads – none in situ – that are now divided between Cairo and Boston (Fig. 1). To summarise: the triads show the king in company with Hathor and a male or female nome personification, presented in two format types. Type 1 shows the king at the centre, striding forward of the flanking figures; Type 2 shows him standing at proper left beside a seated/enthroned Hathor and a nome personification. Reisner also found two damaged triads, one of each type, making a total of four Type 1s and two Type 2s (Fig. 2). He also found many fragments of broken greywacke, of varied sizes and proportions, which appear, for the most part, to belong to more triads. Using some of the greywacke pieces, I tentatively suggest three (at minimum) new hypothetical Type 1 triads,⁴ making a total of nine triads (Fig. 3). Given the range of fragments, there were surely more, and given the number of triads, they could only have gone in the valley temple's open court. I speculate that five Type 1s each could have been placed on the north and south walls, and at least two Type 2s on the west wall, flanking the doorway, and facing east⁵ (Fig. 4). Additional statue types, including at least two dyads,⁶ would have filled out the statue programme around the court.

The four intact triads show that each nome personification bore a nome standard (Fig. 1). The nomes represented in Type 1 are Upper Egyptian 4, 7 and 17; in Type 2, Upper Egyptian 15. The capitals of these nomes are, respectively, Thebes, Diospolis Parva, Cynopolis, and Hermopolis. The nomes together span much of Upper Egypt (Fig. 5). The nomes were chosen, I believe, because each, almost surely, had a town, not specified on the

triads, which held a Hathor cult temple, albeit small, founded by Menkaure or his predecessors.⁷ What I propose in the preceding article is that the temples held estates from which Menkaure's royal cult was provisioned, if only in a fictive or symbolic sense, by Hathor, whose beneficence flowed to the king through the conduit of her 'deputies', the nome personifications.⁸ I suggest that the triads would have been arranged along the walls of the valley temple court according to descending and ascending Upper and Lower Egyptian nome numbers,⁹ on the order of what we see at Sneferu's statue cult ('valley') temple at the Bent Pyramid.¹⁰ Unfortunately, no triads with Lower Egyptian nomes survive, or they may never have reached production. At least five would be expected; my hypothetical triads may account for some (Fig. 3). But with so many lacunae in the archaeological record, it is impossible to reach any level of certainty.

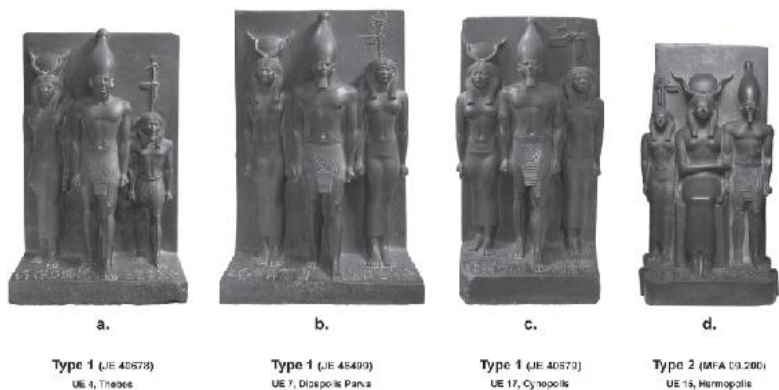


Fig. 1: The four intact triads. (a) Hathor and nome personification closely juxtapose king; (b) Hathor holds king's hand; (c) Hathor and nome personification embrace king; (d) Hathor embraces king's waist and right forearm

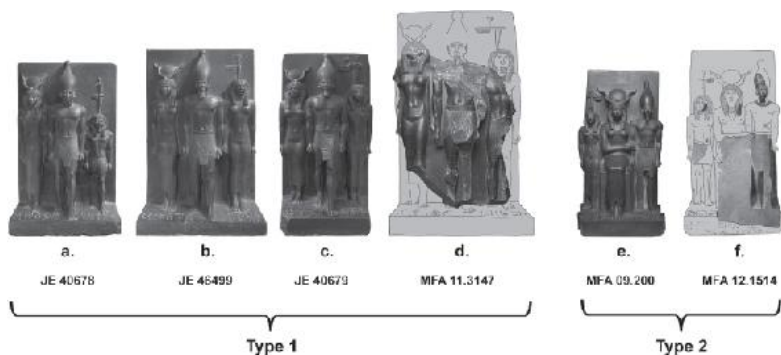


Fig. 2: Four intact (a, b, c, e) and two fragmentary (d, f) triads. In (d), Hathor holds king's hand and male nome embraces king's right shoulder. MFA, Boston 12.1514 (f) is reconstructed using MFA, Boston 47.1748 (nome's face), 47.1760 (Hathor's lappet), 24.2796 (king's crown), 47.1769

(king's beard), and 11.699 (king's face)

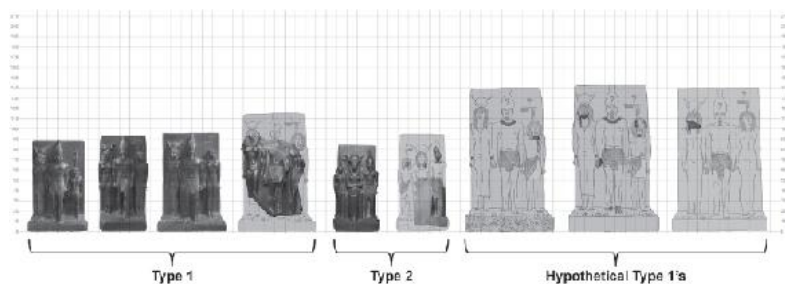


Fig. 3: Intact and fragmentary triads, with three Type 1 hypothetical triads (crowns unknown)

The triads vary in dimensions, the intact examples on their own demonstrating a lack of uniformity in size (Fig. 1). There are also considerable differences in style of execution¹¹ among the intact and fragmentary examples, testifying to the presence of different hands. The differences could be accounted for in a number of ways, one of which is a change of king. In fact, some triads may have been made under Shepseskaf, after Menkaure's death, based on the following observation: the Cynopolis triad (Cairo JE 40679), alone among the triads, lacks a Horus name and serekh, which is a striking omission (Fig. 28c). Recent work by John S. Nolan strongly suggests that the presence of a Horus name inside a serekh on a fourth dynasty object is evidence that the king was alive at the time of the object's manufacture; and conversely, that the presence of only the *nswt-bity* name with a missing Horus name and serekh shows that the king was dead at the time the object's manufacture.¹² I suggest that the Cynopolis triad without Horus name in serekh was made after Menkaure's death. It is therefore not unlikely that the original set of intact Menkaure triads was produced both under Menkaure and his successor, Shepseskaf. As noted, Shepseskaf's architectural contribution to his father's monument appears to have been considerable, since, in finishing off his father's stone temple in mud brick, he faced its open court with 26 compound niches and intervening simple ones¹³ in the ancient palace facade style (Fig. 4). Reisner surmised that Shepseskaf generally adhered to the temple plan outlined by his father, but with so little in place architecturally at the time of Menkaure's death, the son was largely starting from scratch.¹⁴ This point impacts on our discussion of the triads, for while the series was probably underway during Menkaure's reign, it was most likely Shepseskaf who finished the statue programme, as far as it went, and who was ultimately responsible for its installation.

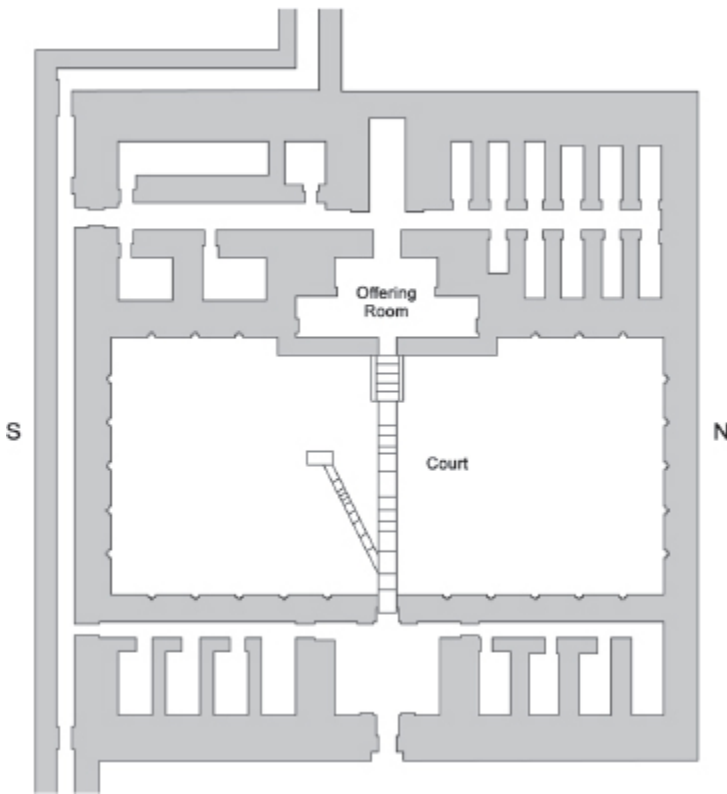


Fig. 4: Menkaure valley temple plan. Compound brick niches in court added by Shepseskaf. Simple intervening niches not shown

My previous article outlined the triads' themes communicated through their iconography, inscriptions, and attitudes of the figures. The themes are: (1) legitimization of the king, expressed through Hathor and the nome personifications' embrace of, juxtaposition to, or hand-holding with, Menkaure (Fig. 1); (2) provisioning the king, the stated subject of the address to the king in the inscription on the base in front of each nome; and (3) *heb sed* confirmation of the king, communicated by the *mekes* document he holds in the one surviving Type 2 triad¹⁵ (Fig. 6). Thematically ranked at the top of this list is the *heb sed*, Egypt's central rite of royal renewal that enabled the king to rule eternally in this world and the Beyond.¹⁶ Legitimation (approval by the gods) and provisioning (enabling survival) are, I suggest, supporting themes, just as they are at Sneferu's statue cult temple, discussed below. There is, however, an additional *sed*-related theme, noted in my previous article,¹⁷ that I believe is encoded in these triads, and it is this new theme, which I call multi-directionality, that now requires amplification.

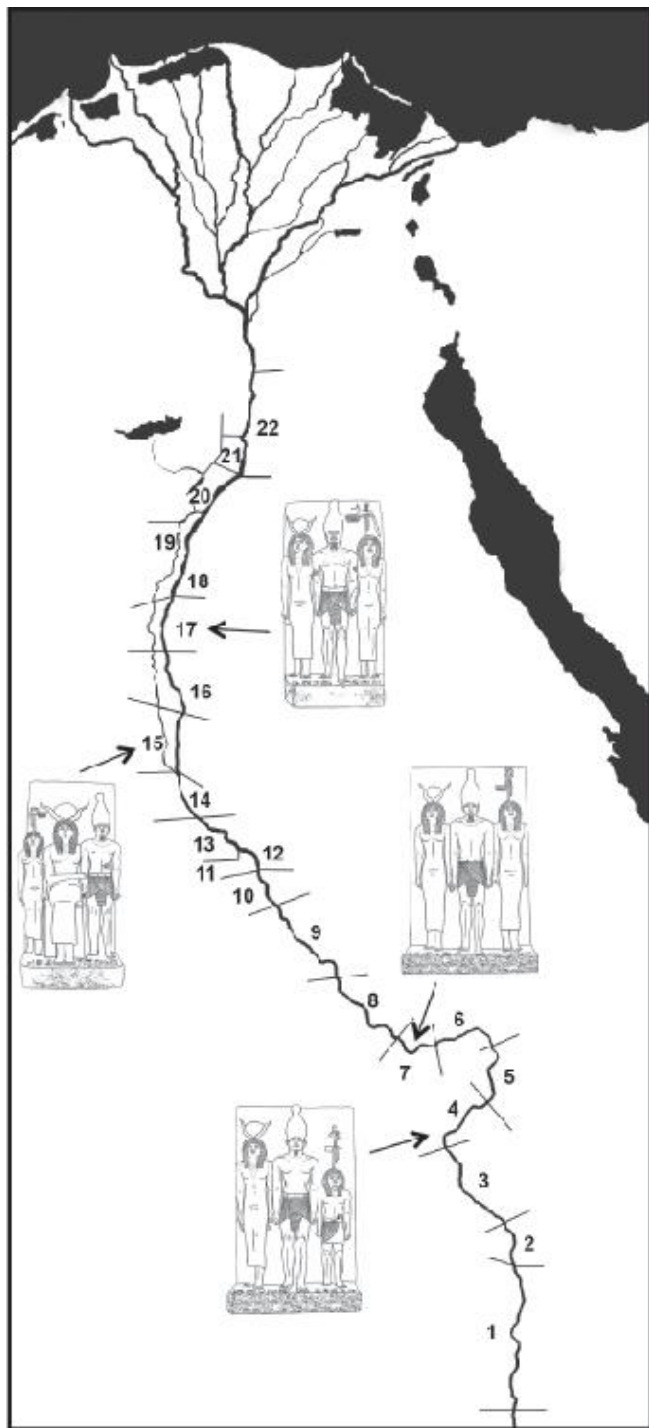


Fig. 5: Geographical distribution of triads according to nome number



Type 2 (MFA 09.200)



Type 1 (JE 40679)

Fig. 6: King in Type 2 (MFA, Boston 09.200) holds the mekes and not the traditional folded cloth or 'enigmatic object' of Type 1



a. Type 1 (JE 40678)



b. Type 1 (JE 40499)



c. Type 1 (JE 40679)



d. Type 2 (MFA 09.200)

Fig. 7: Darkened bands help show outward glances, to varying degrees, of flanking figures in Type 1 (a, b, c) but only of nome personification in Type 2 (d). Not to scale



Fig. 8: Features of flanking figures in JE 46499 (a) and JE 40679 (b). Not to scale



Fig. 9: Features of flanking figures in JE 40678 (a) and MFA, Boston 11.3147 (b). Not to scale

Expression of movement in the triads

Subtle, and not so subtle, features in heads, arms, hands, torsos, and legs, suggest that figures in the triads are moving – and in different directions. Truly frontal or static figures are the exception. That flanking figures might not be fully frontal first came to my attention through Dorothea Arnold's observation that the flanking figures in one intact Type 1 triad turn their heads outward (Cairo JE 46499, [Fig. 1b](#)).¹⁸ Examining the other triads, I realised that the same outward-turning face was present in all Type 1's to varying degrees ([Fig. 7a–c](#)), and in Type 2 for the flanking nome personification, but not the king ([Fig. 7d](#)). Torsos of flanking figures could also angle outward, but with male and female differences. Torsos of flanking females (Hathor and nome personifications) angle out to one degree or another ([Fig. 8a, b](#)), but the torsos of male nome personifications in Type 1 are, despite the slightly outward gaze, frontal like the king's ([Fig. 9a b](#)). And like the king – and that other high-status figure, Hathor – male nomes advance their left legs ([Fig. 2a, d](#)), while Type 1 female nomes, following the norm in Egyptian art, have their feet together. The exception to the female feet-together rule is in Type 2 ([Fig. 1d](#)) where the female nome, for the only time in the triad series, has an advanced left leg: like Hathor, she is walking. In sum, it appears that flanking figures present various degrees of movement in either walking forward (male nomes) or to the sides (Type 1 Hathors and Type 2 female nome). But whether male or female, whether walking or not, all flanking figures, except the king in Type 2, look outward to some extent. That outward glances are an intended feature in the Menkaure statuary is most noticeable in the greywacke dyad, which I believe functioned with the triads as part of the overall corpus of greywacke

sculpture related to the *heb sed*.¹⁹ In the dyad, Menkaure looks noticeably to his right,²⁰ while both he and the queen advance their left leg (more so the king) (Fig. 10). When considered as a whole, a picture of the greywacke figural sculpture as depicting active, turning, moving figures begins to emerge.

Implicit in the design of the Type 1 triads, in fact, is the expression of movement forward, left and right (Fig. 11). The general pattern of outward glances among flanking figures, along with the forward movement of the king is consistent enough that it should be understood not simply as stylistic variability but as a conscious signalling system. What lends credence to this suggestion is that signals for movement in different directions is not a first with Menkaure. The same feature, though expressed in very different forms, seems already implicit in the design of the Sneferu statue cult temple at the Bent Pyramid and in Djoser's Step Pyramid Complex.²¹ Through this material, I suggest below that multi-directionality, like legitimization and provisioning, was a theme linked to the *heb sed*, and, like legitimization and provisioning, was incorporated into at least these three, and probably more, decorative programmes of royal cult complexes.²² A look at the possible placement of the triads already invites comparison with Djoser material.

The architectural context of the triads as related to earlier material

Menkaure's triads are our first intact examples of this statue type, though a fragmentary example shows that the triad form was already extant in the time of Khafre.²³ Set on bases, the Menkaure triads have back-tilted back slabs, out of which, and beyond which, their high relief figures (at first glance frontal) seem to emerge. Unfinished backs suggest the triads were designed to be set against or embedded in a wall. Despite the monumental size suggested by photographs, the triads are relatively small. Heights of the intact examples range from 88.5 to 95.8 cm.²⁴ Comparing their size with those of the third dynasty Djoser relief panels may not be inappropriate. Found *in situ* under the king's pyramid and south tomb, the Djoser panels were set into false door wall niches, where each relief is about 87 cm high.²⁵ I am regularly led back to the thought that the triads, in their original concept (*and concept only, since it was never realised*) were intended to fit into wall niches akin to what we see with the Djoser panels.²⁶ The height of some triads' relief surfaces, omitting the base, is, in fact, extremely close to the height of the Djoser panels. Fig. 12 shows how a 166 cm man, standing beside a triad would need the sculpture to be elevated on a plinth, just as the Djoser panel sits on top of a blank space (about 58 cm high) that may represent just such a statue plinth.



Dyad (MFA 11.1738)



King looks to proper right

Fig. 10: King looks to proper right in dyad (MFA, Boston 11.1738)

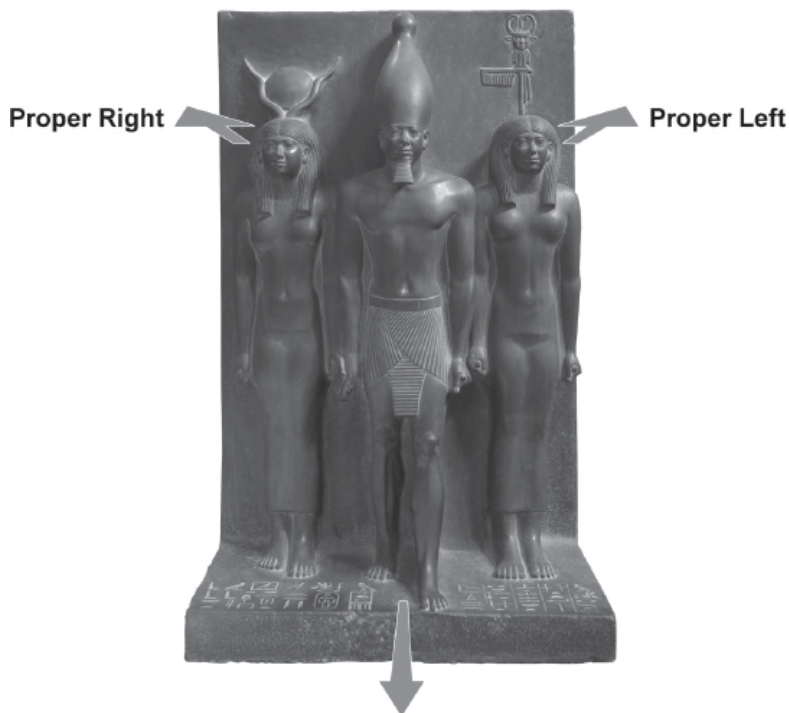


Fig. 11: Potential for movement in three directions integrated into design of Type 1 triads

My question is whether Menkaure or Shepseskaf had the idea of placing the triads on plinths against an un-niched wall (Menkaure) or in niches

(Shepseskaf) where the triads' figures would face into the valley temple court.²⁷ The approximately 58.5 cm widths²⁸ of Shepseskaf's compound brick niches could have accommodated some of but not all of the triads, which are of varied heights, widths and depths. But was the use of wall niches for elevated triads ever an idea considered but never used (Fig. 13)?²⁹ That the series of ten to twelve triads had to go in the court seems clear. There is no other place they would fit. And if I am right that the triads were designed for the *heb sed*, it would also make sense they would appear in the open court. A temple court equipped with statues of the king is associated with the *sed* festival since Djoser's *heb sed* court at the Step Pyramid Complex, and is suggested by the open courts at Sneferu's statue cult ('valley') temple,³⁰ now confirmed as a *heb sed* temple through inscriptional evidence,³¹ and at Khufu's pyramid temple,³² where, in both cases, provisioning and *heb sed* themes were found together. A *heb sed* context is suggested, too, by the open court of Khafre's pyramid temple, which, faced with twelve (now lost) statues of the king,³³ is thought to have been the focus of a *heb sed*.³⁴ My guess is that Menkaure intended to set his triads on plinths against the walls of his open valley temple court for the *heb sed* ritual, and that at his death, Shepseskaf perhaps elaborated on this idea by placing compound niches along the walls where Menkaure had intended the statues to go. There is no clear evidence to my knowledge, however, that the statues were ever actually installed.

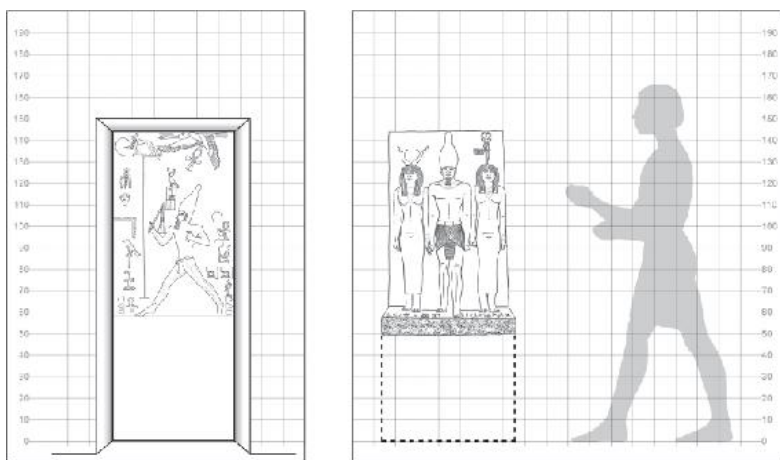


Fig. 12: Relative sizes of Djoser panel and a triad, the latter on a hypothetical base; man shown for scale (166 cm)

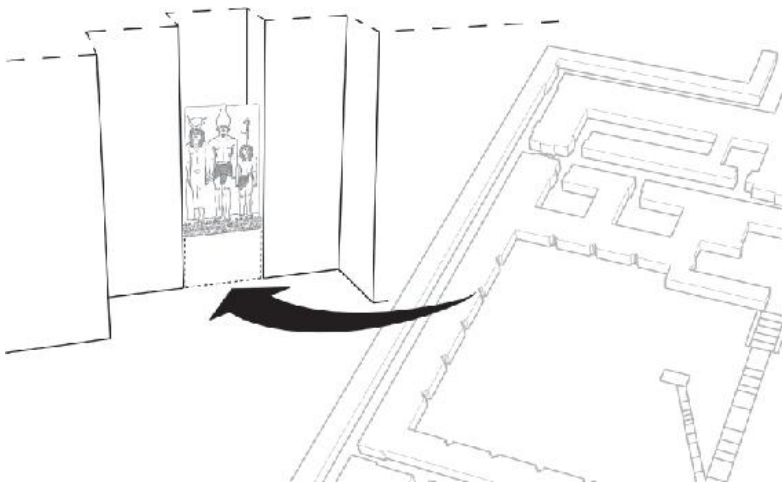


Fig. 13: A concept never realised? Possible idea for installing triads on bases in the compound niches added by Shepseskaf

Triad figures, moving versus still

Placement of the Menkaure triads around the temple court would have allowed the general pattern of Type 1 outward glances to suggest processional movement in three directions. The movement would be ‘real’ (as figures walk/stride), or implied. By ‘implied’, I mean movement that is a stage direction: when female nome personifications in Type 1s have feet together, and are thus not moving, their faces and torsos nonetheless shift outward, signalling what could be a ‘stage direction’ for the king to move to the proper left (PL) (Fig. 14). The king thus has the potential to move in three directions: forward, as shown by his stride ahead; ‘stage left’ with the PL directive of the nome personification; or ‘stage right’, with the proper right (PR) glance of Hathor. Furthermore, in the Diospolis Parva triad, whose nome insignia is the face of Hathor (Bat) herself, (Fig. 14), Hathor’s angled gaze and advanced left leg, plus a torso that is more sharply turned than that of the nome, and, most importantly, the fact that she takes the king’s hand (Fig. 2d also) suggest that she and the king are understood to move *together* to the PR. In each triad, movement, real and implied, and in multiple directions, is expressed by the degree to which the flanking figures’ faces turn; by the angle of their bodies or lack thereof; by their stance – that is, whether they have advanced left leg or stand with feet together; and by how they interact with the king (close juxtaposition, embrace or hand-holding).

The figure most in movement in the Type 1 triads is Menkaure, made clear by the length of his stride and the rendering of his kilt tab that is angled to varying degrees through force of his gait – unlike the kilt tab on Type 2 (Fig.

15a), which lies straight across and over legs that are closer together than in Type 1 (Fig. 15b,c,d). The king in Type 1 strides; the king in Type 2 stands. And the arms of the king in Type 1 often move, with his left a little higher than his right (for example Cairo JE 40678); just as when a male nome is present, his right arm rises slightly above his left (Fig. 1a). Male figures appear to move with a slight swing of the arms.

But it is only in Type 2 (Fig. 1d), where the king is stationary, that he holds the *mekes* of the *heb sed*, a piece of iconography usually, but not always, seen with the running king. Appearing to underline the *heb sed* theme is the shape of the Type 2 base, which alone among the triads has curved corners that recall the shape of the *dnb* territorial markers that kings circuited in the *heb sed* race (see Fig. 25b, d).³⁵ Type 2 is also given emphasis through reversing Type 1's format of who moves and who does not. For in Type 2, Hathor and the king do not move, while the female nome now has an advanced left leg. She is walking (Fig. 16). The meaning of this unique example of movement in a female nome personification may relate to her enhanced status due to proffering the *ankh*, assuredly for the king. This is the only time among the triads that the *ankh* sign appears. In Type 1, Hathor alone (JE 46499) or Hathor and the female nome personification (JE 40679) can hold the *shen*, or figures can hold the so-called 'enigmatic object' (the king in JE 40678, 40679, and 46499; the female nome personification in JE 46499; and male nome personification in JE 40678). In one case Hathor holds nothing at all (JE 40678). But no surviving Type 1 figure holds the *ankh* sign. The fact that the Type 2 moving female nome personification proffers *ankh* is significant. She seems to be acting as a substitute for Hathor in providing a benefit to the king that the human arms of Hathor, already engaged, cannot. (A comparable expansion of duties is taken up by the human-armed hieroglyphs behind Djoser on his relief panels and Sneferu on his pillar reliefs [see infra, Fig. 25a, b, d]). It is in this deputized role of Hathor that the Type 2 female personification assumes both Hathor's Type 1 position on the proper right, and her walking stance.



Fig. 14: Type 1 female nome personifications stand with feet together, but faces and torsos shift outward



a. Type 2 (MFA 00.200)



b. Type 1 (JE 40676)



c. Type 1 (JE 46498)



d. Type 1 (JE 40679)

Fig. 15: Flat kilt tab in Type 2 (a) shows king is standing, while degrees of angled kilt tab and stride in Type 1 (b, c, d) show he is striding

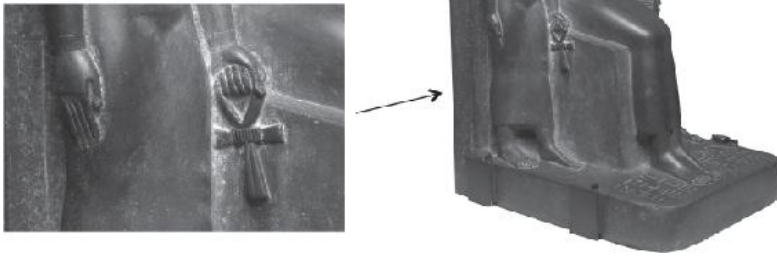


Fig. 16: Female nome personification in Type 2 (MFA, Boston 09.200) has advanced left leg and offers ankh

The sole appearance of the *ankh*, in Type 2, offered by the only example of a moving female personification, may also, I suggest, serve as a kind of punctuation mark that alerts us to a culmination, a terminus of sorts, in the ritual – just as I think an *ankh* is used to mark ritual endpoints in two Djoser panels, discussed below. The Type 2 triad, and probably its fragmentary companion (Fig. 2f, though probably with male nome), allude, I suggest, to a moment when the king, visibly legitimized in the double embrace of Hathor, and in possession of the divinely accorded *mekes* and *ankh*, stands confirmed as eternal monarch at the conclusion of the *heb sed*.

Given that the nome personifications in both Type 1 and 2 always move to some degree, through either turning or walking or both, it is not surprising that their nome standards can also move: on the intact Type 1 triads, all the standards face the viewer's left, while on the intact Type 2, the standard switches direction (Fig. 1). The change in direction in Type 2 could be explained by the fact that there is too little room for the standard to face the usual leftward direction, or that all the standards should face the king. But the shift in direction also emphasises the overall movement in the greywacke series, and it also resonates with a pattern seen at the Sneferu statue cult ('valley') temple.

Multi-directionality at Sneferu's statue cult ('valley') temple³⁶

At Sneferu's temple, female personifications of estates in Upper Egyptian nomes face northward (rightward) along the western side of the entrance corridor, while their nome numbers run southward (Fig. 17a, b). Upper Egyptian nome numbers moving in one direction while their personified estates literally face another recall the Menkaure Upper Egyptian nome standards that face one direction while their personifications glance in another. The Sneferu estate personifications from designated nomes offer provisions to the king, just as the triads' nome personifications give offerings to Menkaure from estates in designated nomes.³⁷ But what the Sneferu example makes clear – as probably did the triads, in their original arrangement in the valley temple court – is that a circulation of offerings is at work here (Fig. 17b). For the Upper Egyptian nome numbers start not at the entrance corridor but west of the pillared hall and run south to the entrance of the temple where they end with nome 22, the northernmost of the Upper Egyptian nomes; while the Lower Egyptian nomes, on the other side, start at the entrance, probably with Lower Egyptian nome 1, and run north to higher numbers through the Delta. Six engaged statues of Sneferu of different sizes³⁸ stood at the north end of the temple in statue shrines.³⁹ The king thus literally stood between the descending and ascending nome numbers, creating a circulation of offerings directed to him from his estates around the country.

But Sneferu does not just passively stand and receive offerings in this temple; he moves – and it is movement through and out of his temple. I previously thought that he should be understood to walk from those statue shrines and move south toward his temple's exit (our entrance),⁴⁰ which I think still obtains; and we can see from a west wall fragment from directly inside the doorway⁴¹ that when he stands facing a god, he is orientated south toward the exit (Fig. 18a; king with a tail). But I now think that, in addition, he should be understood as running out of the temple in the *sed* festival. Most noteworthy in this regard is the fragment of the king's raised heel from a wall register above the file of Lower Egyptian estate personifications on the east wall of the entrance corridor⁴² (Fig. 18b). While the file of women is orientated north, the raised heel of the king in the register above is orientated south. The heel was part of a large image of the king running the *sed* race, the *heb sed* being the subject found in fragments throughout Sneferu's statue shrine images, wall reliefs, and especially pillar reliefs⁴³ that depict him both standing in shrines of the type known from earlier Djoser *sed*-related panels, and running with the *mekes* (Fig. 19).⁴⁴

As Sneferu walked or ran south through his exit, he had Upper Egyptian nome 22 on his right and, probably, according to Fakhry, Lower Egyptian nome 1 on his left (Fig. 20a). Transferring the king to a map, these coordinates orientate him east and place him at the juncture of Upper and Lower Egypt, which is the politically and cosmically charged region of Memphis (Fig. 20b), the capital where in real life Old Kingdom *heb sed*

festivals were celebrated. Dual orientation, south and east, has been achieved in Sneferu's temple through an integration of the architectural and relief programmes of the temple, the purpose being not only to provision the king through an eternal circulation of offerings from around the country, but also, and, most importantly, to accord him the eternal benefits of celebrating his *heb sed* in his capital.⁴⁵

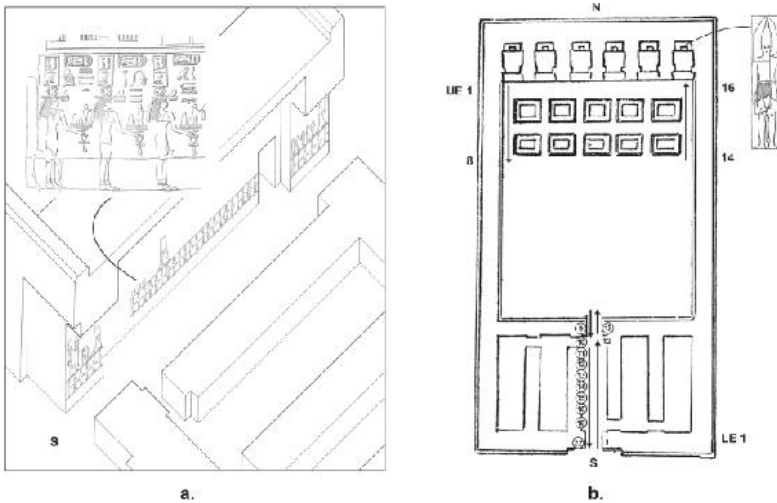


Fig. 17: (a) Detail of Sneferu's statue cult ('valley') temple entrance corridor, modified from D. Arnold, in *Egyptian Art in the Age of the Pyramids* (New York 1999), 85, Fig. 49, with added magnified view of west wall relief (after Fakhry, *The Monuments of Sneferu II*, Pt. 1, Fig. 17). Personified estates face north on both sides of corridor (only west side of corridor shown). (b) Redrawing of Fakhry, *The Monuments of Sneferu II*, pt. I, 18, Fig. 8. Only nomes Fakhry found in situ are circled. Arrows show direction in which nome numbers run: Lower Egypt nome numbers run north; Upper Egypt nome numbers run south. Statues of king stood in six statue shrines at north facing south

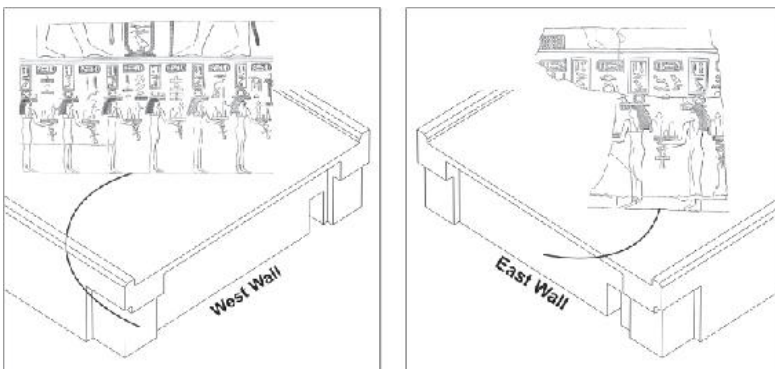


Fig. 18: (a) West wall of Sneferu entrance corridor with magnified view of

relief, after Fakhry, The Monuments of Sneferu at Dahshur II, pt. I, ; (b) East wall of corridor with magnified view of relief, after Fakhry, The Monuments of Sneferu II, pt. I, Fig. 25; from east wall, location unknown (p. 55)

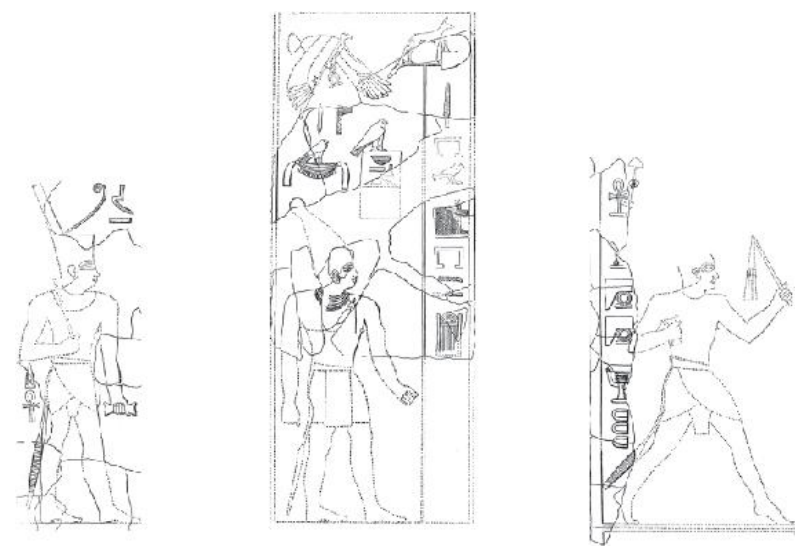


Fig. 19: Reconstructed images of Sneferu standing, with and without mekes; and running (as reconstructed) with mekes; after Fakhry, The Monuments of Sneferu at Dahshur II, pt. I, , Figs 120, 48, 43

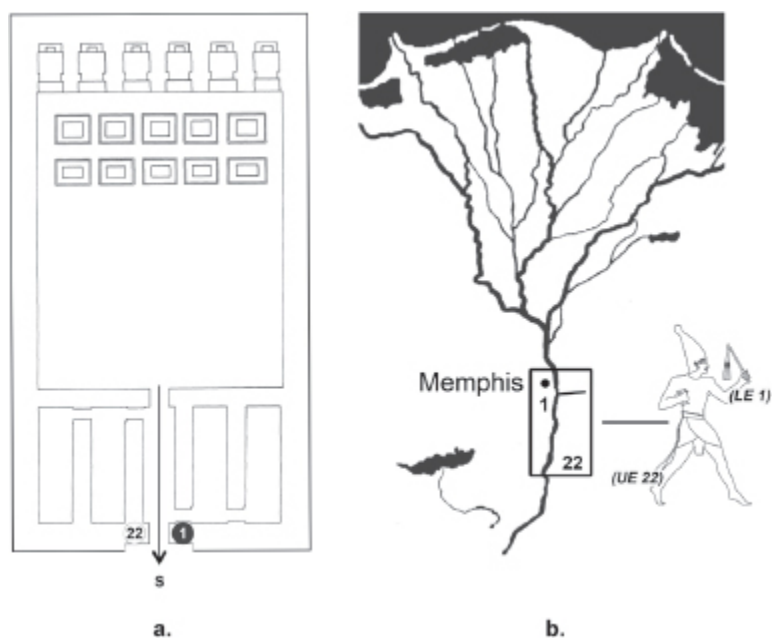


Fig. 20: (a) King exits temple to south: Upper Egypt nome 22 to his right

and (probably) Lower Egypt nome 1 to his left places him east (b) in the Memphite area. Temple plan after Friedman, JARCE 32 (1995), Fig. 21, after Fakhry, The Monuments of Sneferu II, pt. I, Figs 1; 119

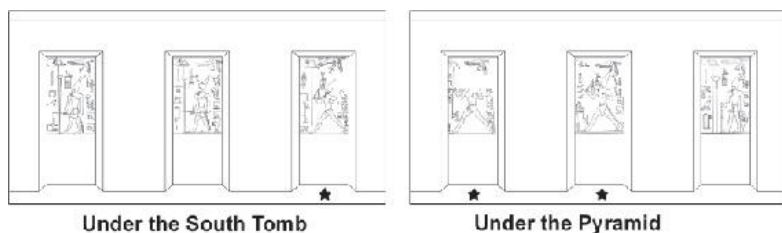


Fig. 21: The six underground relief panels from Djoser's Step Pyramid Complex. Running figures are starred. Drawings after Friedman, JARCE 32 (1995), Figs 2a, b

Multi-directionality at Djoser's Step Pyramid complex

The use of multi-directionality at Sneferu's temple made me think about the potential for movement in multiple directions found in the Menkaure triads, and how the architectural and statue programmes of Menkaure's valley temple might be integrated for related purposes. This led me to think about where else clearly depicted or implied movement appears in Old Kingdom royal architecture, which led me back to Djoser's Third Dynasty Step Pyramid Complex at Saqqara. Here, running as part of a *heb sed* ritual is illustrated in the king's underground relief panels, set within false doors, three under the pyramid and three under the south tomb. Three of the reliefs show Djoser standing, and three running (starred), all facing left (Fig. 21). As with all profile figures, he is also to be understood as facing forward, which would be east, giving him implicit dual directionality.

But there is more than dual-directionality here. There is multi-directionality, and it is played out in new and unique ways with Djoser. The panels under his pyramid are essentially on line with those under the south tomb, so that the two figures of Djoser running under the pyramid link to the one under the south tomb in a leftward, southern sequence (Fig. 22). These underground figures running south are to be understood as a narrative sequence that depicts Djoser in three different costumes, at three different times, as if he were actually running above ground along the path of *ḏnbw* territorial markers where he is to circuit around the markers ritually to claim Egypt during the *heb sed* (Fig. 23). The running takes the king in multiple directions, first south, then west, or right, with the curved arrow, and then back north and around. The *ḏnbw* markers seem to have a dual function: as

physical ‘stage scenery’ and as large-scale hieroglyphs to be read. The meaning of the *dnb* sign probably comes from the verb *dnb*, meaning ‘to turn away, turn round’,⁴⁶ so that the markers are the equivalent of stage directions that tell the king when to turn.

All the panels’ hieroglyphic captions typically face Djoser,⁴⁷ except in the final running scene under the south tomb (Fig. 24c), where the hieroglyphs in mid-inscription shift direction. The caption is almost the same caption from the previous panel: *hr wsht rsj(t) jmnt(t)*, ‘at the southwest broad court’⁴⁸ (Fig. 24b), except now the hieroglyphs for ‘southwest’ switch orientation⁴⁹ and are transposed. The full caption reads: *ms(-t) hr wsht jmnt(t) rsj(t)* ‘Born at the southwest corner of the court’ (Fig. 24c). This last running figure of Djoser, under the south tomb, correlates with the foremost figure running above ground who is to turn, that is, shift direction, at the southernmost *dnb* marker (Fig. 23). The shift in orientation of the hieroglyphs is another ‘stage direction’, this time below ground, and again meaning ‘now it’s time to turn’. And not only ‘turn round’ but also ‘turn direction’ in order to go south-west – ‘to be born’ as a *ms*-created or dedicated statue of the king at that area of the Great Court.⁵⁰ Ensuring proper movement and direction was important enough that a redundancy of signalling systems (‘stage directions’) was put in place both above ground (with the *dnb* markers) and below (with the shift of hieroglyph orientation).

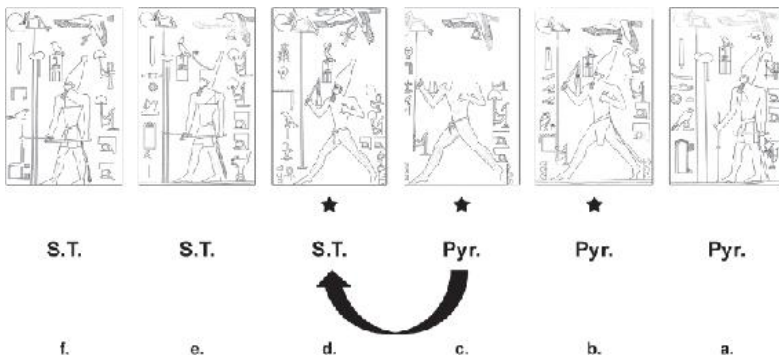


Fig. 22: Djoser figures are oriented left/south. The two running figures under the pyramid link to the one running figure under the South Tomb

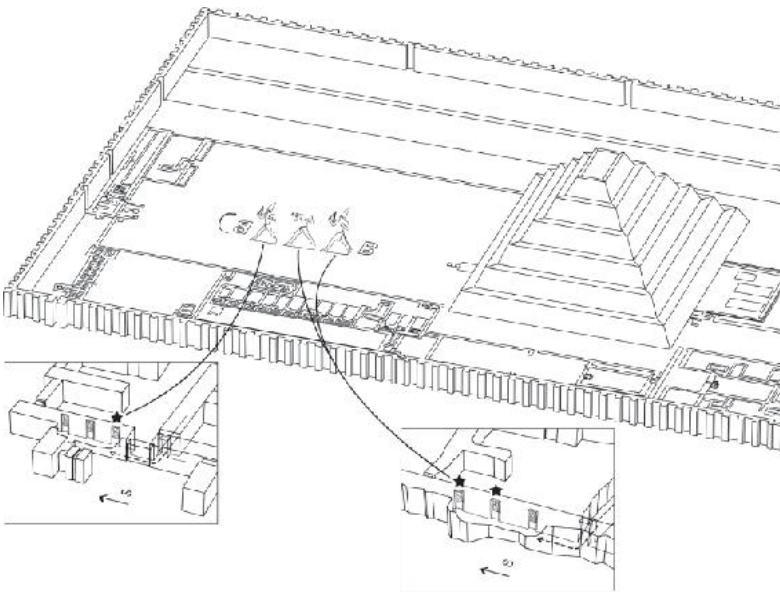


Fig. 23: The three running figures below ground understood as a narrative sequence of Djoser running the sed race above ground

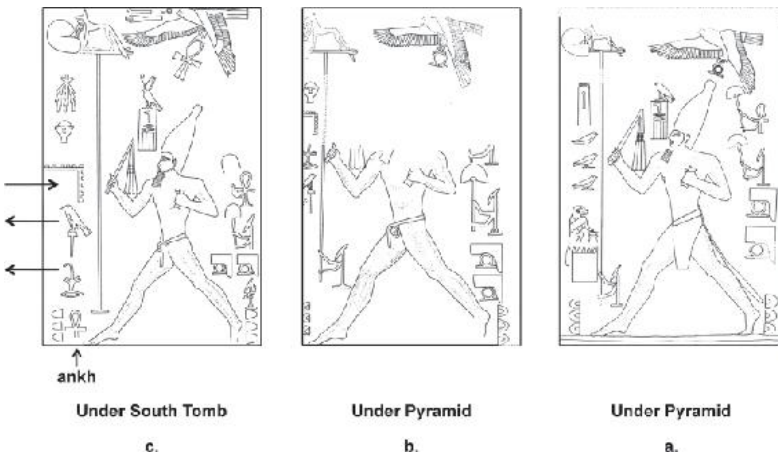


Fig. 24: Hieroglyphs switch orientation in last running panel (c)

The southernmost panel (Fig. 24c) of the Djoser running sequence is also noteworthy in that the *ankh* appears for the first and only time among the running scenes. And perhaps because of its life-giving significance, it is shown twice: once before the right foot of the running king (with *dnbw* markers), and second, as a glyph extended to the king by Horus the Behedite. It is noteworthy that this bird deity offers the *shen* in the previous running scenes (Fig. 24b, a), just as Hathor (in JE 46499) or Hathor and the female nome personification (in JE 40679) offered the *shen* in Type 1 triads, as opposed to the *ankh* in the culminating Type 2 triad. The sudden appearance

of the *ankh* in this last Djoser running scene suggests to me that the *ankh* serves as a kind of punctuation mark, or signal, that some portion of the ritual has ended, just as it did in the Type 2 Menkaure triad where the nome, Hathor's deputy, extended the *ankh* sign. We see another such comparable use of the *ankh* in the sixth and final panel of the Djoser series, where, under the South Tomb, the king stands in (^h*h* *[m]*) the *pr-wr* shrine (Fig. 22f) as Horus the Behedite again extends an *ankh* after the *shen* was offered in the two previous standing scenes. So, at both the end of the running sequence and at the last of the standing scenes, a deity proffers the *ankh* to Djoser, in what seem to be ritual endpoints.

Relationship of Menkaure's triads to Djoser and Sneferu material

Menkaure expands on the Djoser and Sneferu precedents. The Djoser and Sneferu reliefs pair standing and running kings in *heb sed* related images (Fig. 25a–e). With Djoser, the standing figures are understood as standing in the shrines around the *heb sed* court above ground, though without one to one correlation (Fig. 26); and, as noted, the running figures are understood as running the *heb sed* race in the Great Court, also above ground (Fig. 23). When running, Djoser always holds the *mekes*, just as Menkaure holds it in the Type 2 triad. Fragments of pillar reliefs in Sneferu's temple pick up the same standing and running themes, showing him standing in labelled shrines (Fig. 25c), as on the Djoser panels, and (probably as Fakhry reconstructed the scene) running with the *mekes* (Fig. 25d). But a transition occurs when Sneferu stands (as opposed to runs) while holding the *mekes*, seen in a relief that flanked one of his statue shrine images (Fig. 25e). This combination of features (standing while holding the *mekes*) also appears with Menkaure in the Type 2 triad (Fig. 25f).

Thus I suggest that the pairing of running and standing figures in the Djoser and Sneferu reliefs may have been assumed by the Menkaure Type 1 and 2 triads that show him striding without the *mekes* (Type 1) and standing with it (Type 2). In other words, the full range of features from Djoser and Sneferu (standing, running, *mekes*) is maintained, but recombined in a new way. And just as in the Djoser and Sneferu cases, standing, running and the acquisition of the *mekes* take place in *heb sed* courts under the tutelage of Horus the Behedite for Djoser, or the vulture goddess Nekhbet (?) for Sneferu,⁵¹ so the same principle obtains for Menkaure. That is, the open court of Menkaure's valley temple, lined with statues of him striding or standing, and some in possession of the *mekes*, was likewise for celebrating the *heb sed* through the vehicle of his sculpture and likewise under the auspices of deity, but now one that has been fully humanised and in the sole

form of Hathor.

In short, Menkaure in his heb sed rituals is a moving player just as Djoser and Sneferu were. But the full extent of the rituals played out by the triads is not clear. That more than one heb sed related ritual was at work is suggested by additional ceremonies at the Djoser and Sneferu complexes. For example, at Djoser's monument, another ritual, and a further illustration of multi-directionality, is suggested by the alignment of a dummy gate with the line of travel along the *dnb* markers.⁵² Besides circuiting the markers and going south-west, Djoser was probably also understood to run straight ahead through the dummy gate and east to circuit the walls in the *phr h3 inb* ceremony, known to take place in conjunction with a king's accession and coronation (Fig. 27) and thus mimicking the real life ceremony which probably took place at Memphis.⁵³ And Sneferu may also perform another heb sed-related ritual while running with the mekes, namely, the Running of the Apis, which appears on a pillar fragment whose orientation, now lost to us, may have been significant.⁵⁴ And just as the potential for movement in multiple directions and even for multiple rituals at one and the same time is integrated through the architectural and sculptural programmes of the Djoser and Sneferu complexes, so it is, I believe, for the Menkaure triads.

Relevant features in the triads' titles

Just as there are indications for movement in the triad figures themselves (shifted glances, turned bodies, advanced gaits), there may also be similar cues in the triads' inscriptions.

The titles of Menkaure also move. On the Theban Triad, his Horus name, *k3* Bull of the corporation (of the gods) is orientated right, and his *nswt-bity* dual king name, Menkaure, faces left (F. 28a). Moving north, on the Diospolis Parva triad, Upper Egyptian nome 7 (Fig. 28b), the titles switch places, into the same arrangement assumed in the Type 2 triad. But in the Cynopolis triad, Upper Egyptian nome 17 (Fig. 28c), something unusual happens: it omits the king's Horus name. It is not a question of there being too little space; there is room for it. What is not here is perhaps as important as what is. The Horus name is the oldest in the royal titulary and is rarely omitted. In fact, this is the only time I know of its absence in any inscribed Menkaure sculpture. The omission, as noted above, may signal something more substantive than a performance cue; it may signal that Menkaure was dead at the time of the statue's manufacture, suggesting that the plans for not only the architecture but also the sculpture of the valley temple were in flux between the reigns of Menkaure and Shepseskaf, with both sculptural as well as architectural plans finished by the latter. And the lack of the Horus name may suggest that an existential change in the king had taken, or was taking place – from living to dead to reborn – that would have been relevant to his

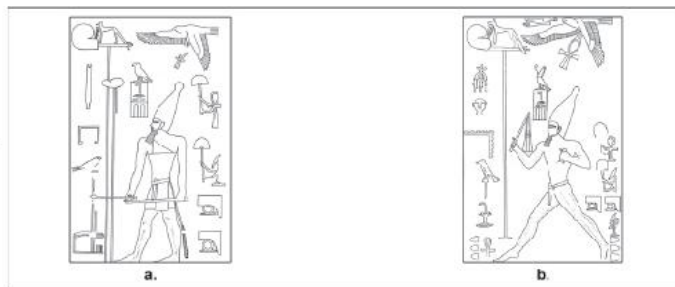
ritual rejuvenation in the *heb sed* performance played out through the triads.

Summary

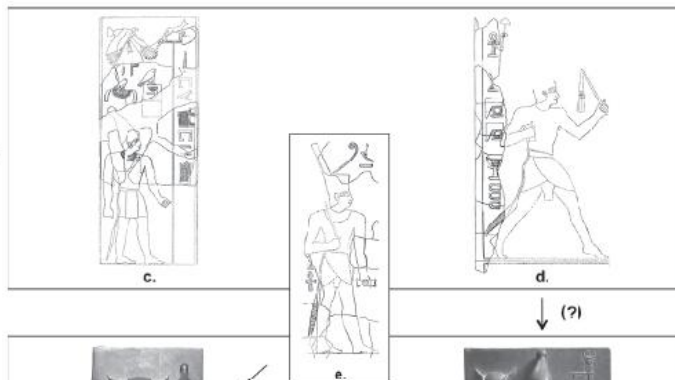
Menkaure's triads are highly efficient vehicles for carrying conflated forms of thematic information. The conflated themes are legitimization, provisioning, multi-directionality and the *heb sed*, with the major theme being the last. The triads compress time, in that all events are concurrent, as opposed to sequenced; and they compress space, through enabling the king to move in multiple directions at once. In short, the triads make available to the king the full spectrum of time and space that will enable him to celebrate eternal *heb seds*. What was largely implicit with Djoser and Sneferu has become more explicit with Menkaure. And what were largely relief images under Djoser and Sneferu, have now become free-standing group sculptures whose 'action figures', with their subtle choreography, play out Menkaure's *heb sed* ritual in his open court.

A further study will look at the how meaning of the triads was enhanced through inter-relationship with the alabaster seated statuary in an adjacent room. The two media, assigned to different architectural spaces, carried separate iconography, texts and meaning, but functionally overlapped to bring the king into relationship with not only Hathor but Re.

Djoser



Sneferu



Menkaure

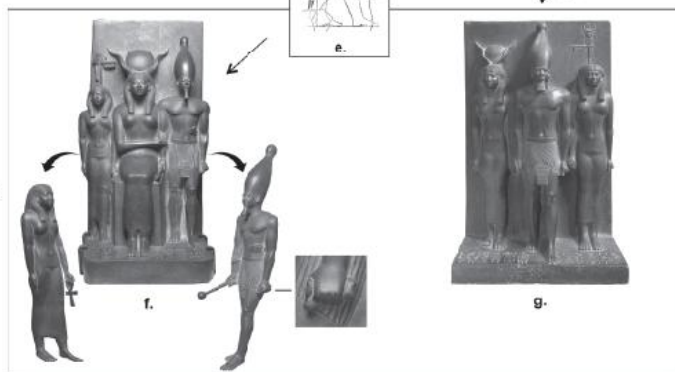


Fig. 25: [Fig. 25](#) (a) South Tomb, southern panel. Djoser stands (^{pr wr}) in a shrine (*pr wr*), referring to shrines in the heb sed court. (b) South Tomb, northern panel. Djoser runs heb sed race holding mekes, understood to take place in Great Court above ground. Mekes is held only when king runs. (c) Sneferu (reconstructed) stands in shrines (*pr wr*, *pr nsr*). From a pillar relief (after Fakhry *The Monuments of Sneferu at Dahshur II*, Pt 1, fig. 48; *Pillar B*, side 1; other pillar images orient him left, e.g. fig. 55, from a statue shrine; cf also fig. 63, and Edel, *Relieffragmenten*, reconstruction, Abb. 1; Fakhry, *The Monuments of Sneferu at Dahshur II*, Pt. 1, Fig. 99, and Edel, *Relieffragmenten*, reconstruction, Abb. 4; Fakhry II, Pt. 1, Fig. 110 and Edel, *Relieffragmenten*, reconstruction, Abb. 3). (d) Sneferu (reconstructed) runs, holding mekes. From a pillar relief (after Fakhry, *The Monuments of Sneferu at Dahshur II*, Pt. 1, fig. 43, p. 66; *Pillar A*, side No. 2. Other pillar images orientate him left, e.g. figs 55, 58,

63, 96). *Lifted rear heel makes run clear, as in Fakhry, The Monuments of Sneferu at Dahshur II, Pt. 1, 65; cf fig. 25).* (e) *Sneferu (reconstructed) stands, holding mekes, from one of two reliefs flanking a central statue of the king in a statue shrine ('Chapel A'). With Sneferu the mekes can also be held when the king stands. (After Fakhry, The Monuments of Sneferu at Dahshur II, Pt. 1, Fig. 120, with modifications to kilt based author's corrections (113, n. 1; cf also figs 126, 127, 134.)* (f) *Type 2 triad, MFA, Boston, 09.200. Menkaure stands, holding heb sed mekes, understood to be in heb sed court of valley temple.* (g) *Type 1 triad, JE 46499. Menkaure strides without holding mekes; understood to occur in heb sed court of valley temple. Mekes now transferred from running king (Djoser), to both running and standing king (Sneferu), to standing king (Menkaure)*

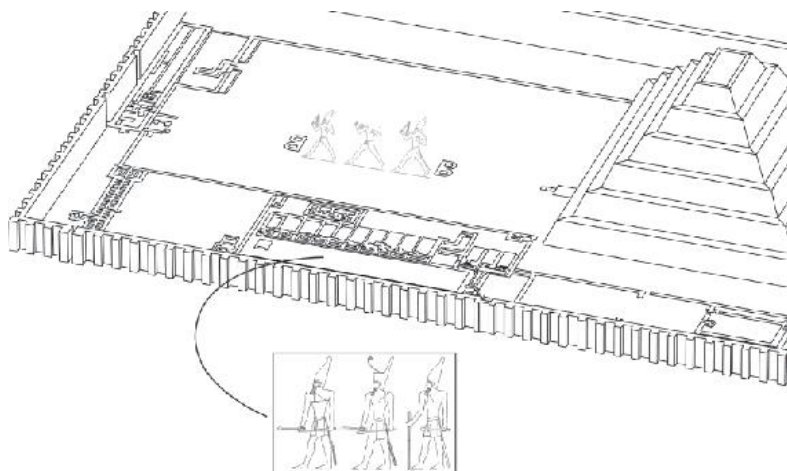


Fig. 26: The three figures of Djoser standing in shrines below ground (see [Fig. 22](#)) understood as king standing in shrines in the heb sed court above ground

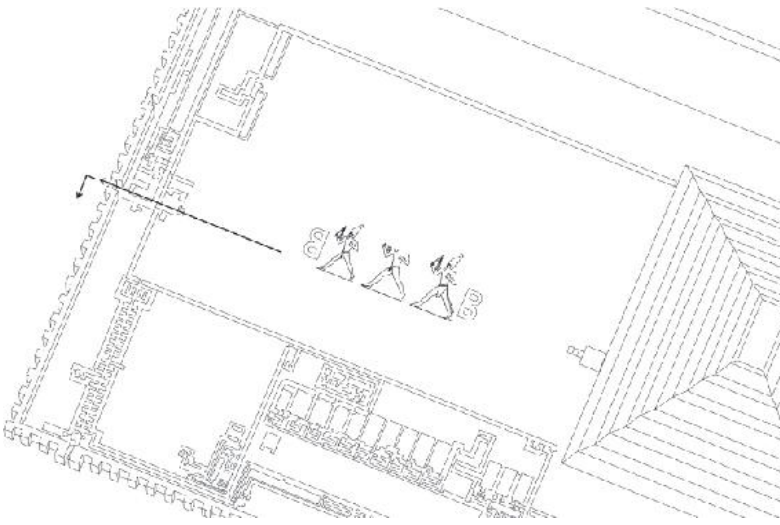


Fig. 27: Djoser's run beside the dnb-markers is on line with a dummy gate, out of which he runs for the phr h inb ritual

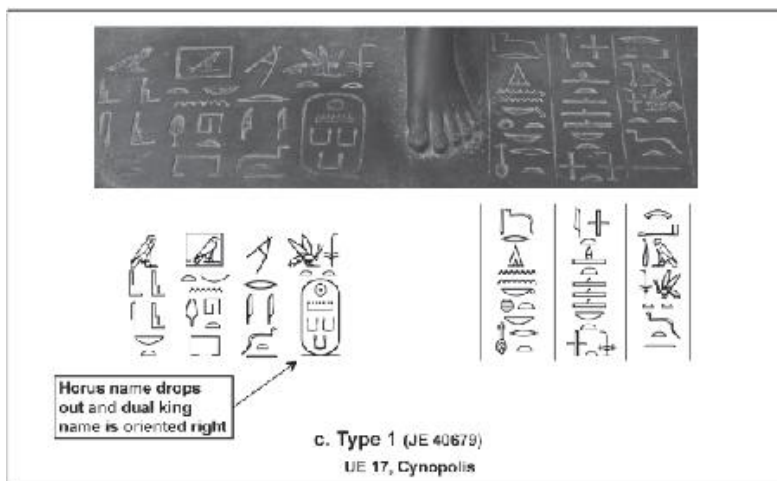
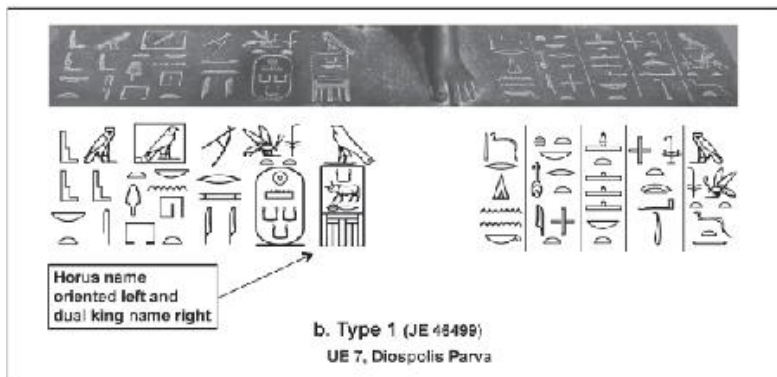
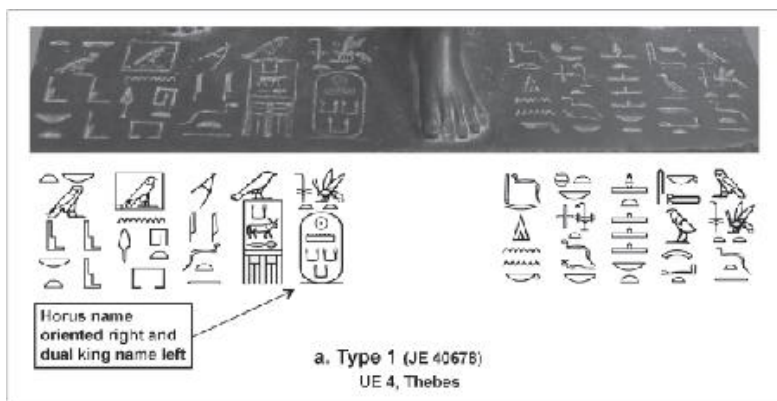


Fig. 28: Features of royal titles in Type 1 intact triads: (a) JE 40678, (b) JE 46499, and (c) JE 40679

¹ For help with the MFA, Boston, material, my thanks to Dr Rita E. Freed, John F. Cogan, Jr. and Mary L. Cornille Chair of the Department of Art of the Ancient World at the Museum of Fine Arts, Boston, Dr Lawrence M.

Berman, Norma Jean Calderwood Senior Curator of Ancient Egyptian, Nubian, and Near Eastern Art; Dr Denise Doxey, Curator of Ancient Egyptian, Nubian, and Near Eastern Art; and the entire staff of the Art of the Ancient World; and for their time and expertise, my thanks to Dr Peter Der Manuelian, Giza Archives Project Director, Museum of Fine Arts, Boston, and Dr Diane Flores, Research Associate. For help with the triads in the Egyptian Museum, Cairo, my thanks to Dr Zahi Hawass, Secretary General, the Supreme Council of Antiquities, Dr Wafaa el Siddik, Director of the Egyptian Museum, Dr Janice Kamrin, Director of Egyptian Museum Database and Registrar Training Projects; Dr Yasmin El Shazly, Head of Documentation; Ms. Nareeman; and Dr Randa Baligh. Much gratitude to Michelle Pisa for graphics, and Michael Fredericks for photography.

² F. D. Friedman, 'Reading the Menkaure Triads: Part I', in R. Gundlach and K. Spence (eds), *Palace and Temple. Architecture – Decoration – Ritual, Königstum (5. Symposium zur ägyptischen Königsideologie / 5th Symposium on Egyptian Royal Ideology, Cambridge, July, 16th–17th 2007)* (Staat und Gesellschaft früher Hochkulturen 4,2; Wiesbaden, forthcoming).

³ G. A. Reisner, *Mycerinus. The Temples of the Third Pyramid at Giza* (Cambridge, MA 1931), esp. 109–110.

⁴ The size, proportion and surface carving of different greywacke pieces require assignment to separate triads. The principles used for the hypothetical reconstructions appear in Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming. Fig. 3 herein, however, adds four new pieces to the second hypothetical triad (Triad B) since its first reconstruction in Gundlach and Spence (eds), *Palace and Temple*, forthcoming, Fig. 6: king's right big toe (MFA, Boston 47.1746 = Eg. Inv. 3684), portion of king's left foot (MFA, Boston 47.1745 = Eg. Inv. 3683), handclasp of king with Hathor (MFA, Boston 47.1719 = Eg. Inv. 3682), and bottom of Hathor's face (MFA, Boston 47.1756 = Eg. Inv. 3694).

⁵ See Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming.

⁶ Besides the famous dyad, MFA, Boston, 11.1738, a second Menkaure dyad is proposed in F. D. Friedman, 'The Menkaure Dyad(s)', in S. E. Thompson and P. D. Manuelian (eds), *Egypt and Beyond, Essays Presented to Leonard H. Lesko upon his Retirement from the Wilbour Chair of Egyptology at Brown University, June 2005* (Providence, RI 2008), 109–144.

⁷ Wendy Wood's suggestion on this point was surely correct: 'A Reconstruction of the Triads of King Mycerinus', *JEA* 60 (1974), 86; expanded on in Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming: 'By the time of Menkaure, temple cults for Hathor are attested in LE in the Giza/Saqqara Memphite area of LE 1, and in UE, including at Tehne in UE 17, where a temple was endowed by Menkaure himself in the very Cynopolis nome found on triad Cairo JE 40679; and at

Gebelein in UE 4, the very Theban nome found on triad Cairo JE 40678; and at Dendera in UE 6'.

⁸ For full discussion, see Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming: what Menkaure seems to be doing is assembling in his valley temple the geographically dispersed Hathor cults in the form of the triads in order to bring Hathor's cult directly into his own.

⁹ For other possibilities, see M. Seidel, *Die königlichen Statuengruppen*. I (HÄB 42; Hildesheim 1996), 44–45.

¹⁰ A. Fakhry, *The Monuments of Sneferu at Dahshur II, The Valley Temple, part I* (Cairo 1961), see esp. 18, fig. 8.

¹¹ See Seidel, *Die königlichen Statuengruppen*, 25–49 (esp. 45–47), pls 5–16.

¹² John S. Nolan, *Mud Sealings and Fourth Dynasty Administration at Giza* (PhD Dissertation, University of Chicago 2010), 25–40, esp. 32; and with specific reference to royal Old Kingdom statues, 37. Nolan's findings support the belief that the appearance of the *nswt* or *nswt-bity* name alone signals that the king is dead, as noted earlier by N. C. Strudwick, *Texts from the Pyramid Age* (Writings from the Ancient World 16; Atlanta 2005), 15, and by J. von Beckerath, *Handbuch der ägyptischen Königsnamen* (MÄS 20; München–Berlin 1984), 19, n. 25.

¹³ Reisner, *Mycerinus*, 40; pl. iX.

¹⁴ Reisner, *Mycerinus*, 39.

¹⁵ W. Barta in *LÄ* iv, 20–22 notes that the *mekes* is rarely held by the king except in the *heb sed* run, exceptions being this triad, along with a Palermo Stone representation of a Khasekhemwy statue (21). I would also include the figures of Sneferu. See *infra*, Fig. 25c.

¹⁶ On the *sed* festival in general, see E. Hornung and E. Staehelin, *Neue Studien zum Sedfest* (Aegyptiaca Helvetica 20; Basel 2006). The authors appear to find no *heb sed* evidence in reliefs or statuary for Menkaure, however.

¹⁷ Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming.

¹⁸ Do. Arnold, *When the Pyramids Were Built* (New York 1999), 67: 'The three figures are impressively arranged in a semicircle, with the pharaoh at the apex and both female deities – Hathor most markedly – turning outward as if to emphasise that his is the main figure in the group'.

¹⁹ The greywacke sculpture, as a whole, I believe, had its own meaning and function separate from those of the alabaster statuary. This subject will be discussed in another article, comparing the use and meaning of the two media, as presented at the conference Abusir and Saqqara in the Year 2010, Charles University, Prague, 31 May–4 June, 2010.

²⁰ Do. Arnold, *When the Pyramids Were Built*, 68.

²¹ The Sneferu example has been discussed previously (Friedman in

Gundlach and Spence (eds), *Palace and Temple*, forthcoming) but will be amplified here, and the Djoser example will be considered for the first time.

²² Multi-directionality connected to the *heb sed* was possibly operative in the monuments of other kings, too, though it is not yet apparent to me.

²³ R. Krauspe, *Statuen und Statuetten* (Mainz am Rhein 1997), no. 26, 21–22, with Khafre fragments that in ‘Korrekturzusatz’, 22, are shown to be from a triad.

²⁴ My thanks to Yasmin El Shazly, Head of Documentation, The Egyptian Museum, Cairo, who obtained new measurements for me, April 2009.

²⁵ F. D. Friedman, ‘The Underground Relief Panels of King Djoser at the Step Pyramid Complex’, *JARCE* 32 (1995), 1–42; the dimensions of panels are given on pp 12–13.

²⁶ I thank Helen Strudwick for raising the question of how Menkaure's designers could have been familiar with the Djoser panels, which lay closed off, about 33 m below ground, and thus clearly out of sight. While twenty-sixth dynasty copyists did enter the pyramid's panel corridor (see C. M. Firth and J. E. Quibell, *Excavations at Saqqara: The Step Pyramid I* (Cairo 1935), 104 (pls 15, 16); II, pls 15, 16), it seems doubtful to me that Menkaure's fourth dynasty designers, or Sneferu's, ever penetrated their predecessor's pyramid (including a difficult descent to the panels corridor) or the south tomb (with admittedly easier access). It is more likely, I think, that fourth dynasty designers were consulting prototypes for images (and architectural plans) in an archive. The similarity of Djoser's third dynasty below-ground reliefs, for example, with the fourth dynasty Sneferu above-ground reliefs (see [Fig. 25](#) *infra*), suggests the existence of such an archive where the third dynasty material was available for reference and adaptation.

²⁷ It may seem odd to compare the triads with the underground Djoser panels that clearly did not face into an open court. The *in situ* panels, in fact, face a wall, while their relief figures face left. But the actions of the relief figures, with the king standing in shrines or running, were understood not as happening in the subterranean corridor, but in the real *heb sed* and great courts above ground (see *infra*, [Fig. 23](#), [Fig. 26](#)). In other words, the Djoser figures, while not literally facing any *heb sed* ritual courts were understood conceptually to function in – to move about in – those actual spaces above ground. What I am further suggesting is that, despite being from architecturally very dissimilar spaces, the subterranean panels (with king, deity and accompanying figures in the form of animated glyphs) and the above-ground triads (with king, deity and accompanying figures in the form of nome personifications) served similar *heb sed* functions. Panel figures, set in wall niches below ground, were conceptually understood to function above ground in *heb sed* related courts; while the triads, above ground, and about the same size as the panels, and possibly also intended (at one time) to go in wall niches – or at least against the wall – really did face into an open *heb sed* court in which their figures were also understood

to move. The earlier below-plus-above-ground concept with Djoser was brought into a single above-ground vision with Menkaure (as it was also, I believe, in Sneferu's statue cult temple).

²⁸ I thank Peter Manuelian and Diane Flores for widths of the niches: about 58.5 cm for compound niches and about 37.5 cm for simple niches. They note that the widths would have been reduced from these dimensions, however, due to plaster.

²⁹ Reisner, *Mycerinus*, 40 describes the niches as 'offering niches', just as were added in the pyramid temple. But the compound, as opposed to simple, niches seem to emphasise use of the entire vertical niche and not just a surface in the niche on which offerings could be set. cf Reisner, pls 32 b, d; 33a.

³⁰ D. Arnold, 'Royal Cult Complexes of the Old and Middle Kingdoms', in B. E. Shafer (ed.), *Temples of Ancient Egypt* (Ithaca, New York 1997), 42–51.

³¹ R. Stadelmann, 'The hebsed of Snefru in the valley temple at Dahshur', in *List of Abstracts from the conference Abusir and Saqqara in the Year 2010*, Charles University, Prague, 31 May–4 June, 2010, 58.

³² D. Arnold, in Shafer (ed.), *Temples of Ancient Egypt*, 51; and more generally, 42–58.

³³ H. Ricke, *Bemerkungen zur ägyptischen Baukunst des Alten Reiches II* (BeiträgeBf 5; Cairo 1950), 48–55, esp. Taf. 2 for his hypothetical reconstruction of seated statues of Khafre around that king's pyramid temple's open court. Whether the statues were seated as Ricke thought, or standing, as Hölscher suggested, may be tilted towards the standing hypothesis, based on finds by Mark Lehner (M. Lehner, *The Complete Pyramids* (London 1997), 125).

³⁴ D. Arnold, in Shafer (ed.), *Temples of Ancient Egypt*, 57 elaborates on the Khafre pyramid temple: 'If [the excavator's] reconstruction is correct, the statues would clearly have marked the court as an area used for Sed-festival ceremonies'. For a plan of the Khafre pyramid temple see *ibid*, 53, [fig. 15](#).

³⁵ See further illustration in Friedman in Thompson and Manuelian (eds), *Egypt and Beyond*, figs 12a–b, 122.

³⁶ Discussion of this subject was begun in Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming.

³⁷ That the Menkaure offerings, if only symbolically, came from Hathor temple estates in the triads' nomes is suggested in Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming.

³⁸ A. Fakhry, *The Monuments of Sneferu at Dahshur II, The Valley Temple*, pt. II (Cairo 1961), 3–4 on portions of the first and second statues found. The second statue was apparently smaller than the first (4), just as we see height disparities in the Menkaure triads.

³⁹ See Fakhry's hypothetical reconstruction in *The Monuments of Sneferu II*, pt. I, figs 119, 111, 113 ('hypothetical').

⁴⁰ Friedman in Gundlach and Spence (eds), *Palace and Temple*, forthcoming.

⁴¹ Placement on this part of wall is certain, since the fragment (Fakhry, *The Monuments of Sneferu II*, pt 1, Fig. 18) contains the last Upper Egyptian nome (no. 22) (Fakhry, *The Monuments of Sneferu II*, pt 1, 47).

⁴² Fakhry, *The Monuments of Sneferu II*, pt 1, Fig. 25; exact location on east wall not known since no nome number survives (55); cf Fig. 43. And see *infra*, Fig. 25d.

⁴³ On the pillars, he was orientated in multiple directions around three sides of the ten pillars, though Fakhry cautioned that accurately placing the remains of the images on any given pillar or side was not possible: Fakhry, *The Monuments of Sneferu II*, pt 1, 59.

⁴⁴ For new reconstructions of some pillar scenes, see E. Edel, 'Studien zu den Relieffragmenten aus dem Taltempel des Königs Snofru', in P. D. Manuelian (ed.), *Studies in Honor of William Kelly Simpson*, I (Boston 1996), 199–208.

⁴⁵ cf the Unas pyramid's fifth dynasty use of dual-directionality, east and north, through the integration of pyramid text sequencing with architectural spaces, i.e. moving from sarcophagus chamber to antechamber, to exit and the outside. See J. P. Allen, 'Reading a Pyramid', in C. Berger et al. (eds), *Hommages à Jean Leclant I* (BdE 106/1; Cairo 1994), 5–28, esp. 24, fig. 5, and J. P. Allen, *The Ancient Egyptian Pyramid Texts* (Writings from the Ancient World 23; Atlanta 2005), 9. As with Djoser and Sneferu, and I believe Menkaure, an architectural programme has been integrated with another form of communication – in Unas's case, written text, the net effect being to allow the king to move in more than one direction in his afterlife. I see no *heb sed* reference with Unas, however.

⁴⁶ A. J. Spencer, 'Two Enigmatic Hieroglyphs and their Relation to the Sed-Festival', *JEA* 64 (1978), 52–55; Friedman, *JARCE* 32 (1995), 22.

⁴⁷ The hieroglyph for *bH*, Gardiner Signlist F18, is mis-orientated in the first panel (Fig. 22a), but this is surely an error derived from the artists' habit of drawing the sign for the left-orientated Behedite as preserved in Fig. 22d (=Fig. 24c). See Friedman, *JARCE* 32 (1995), 18.

⁴⁸ For inscriptions, also compare J. Kahl, *Inschriften aus der Zeit des Netjerchet* (ÄA 56; Wiesbaden 1995), 76–79.

⁴⁹ In Friedman, *JARCE* 32 (1995), 29, 36, I did not understand at the time of publishing this article that the shift in hieroglyph orientation was purposeful and 'to be read'. Moreover, I now wonder if the hieroglyph for ankh at the bottom of the column is to be read with the caption, as in: 'Born at the southwest corner of the court, the king (now) being alive'.

⁵⁰ See Friedman, *JARCE* 32 (1995), 29 and *passim* for suggestion that the

panel reliefs depict statues of the king.

⁵¹ Fakhry, *The Monuments of Sneferu II*, Pt. 1, 71 for Nekhbet; and for other deities, see p. 87, Fig. 69 for Horus the Behedite (?); p. 126, Fig. 141 for Sekhmet (?); and p. 95, Fig. 84 for Seshat.

⁵² Just as two other markers in the House of the South originally aligned with a gateway in the earliest stage of the enclosure's design (Friedman, *JARCE* 32 (1995), 14.)

⁵³ T. A. H. Wilkinson, *Royal Annals of Ancient Egypt* (London and New York 2000), 149 for *phr h inb* in Palermo Stone entry for Shepseskaf, PS v.I.2; Fig. 3; and 94–95. See also, W. Barta, *Untersuchungen zur Göttlichkeit des regierenden Königs* (MÄS 32; München–Berlin 1975), 49.

⁵⁴ Fakhry, *The Monuments of Sneferu II*, Pt. 1, 99, Fig. 96 shows a fragmentary image of the king, though clearly with *mekes* in hand, performing the *[p]hrr h[3]*... which Fakhry completes as ‘going round of the Apis bull’, a ritual he links to the *heb sed* (p. 98), as does W. Helck in LÄ V, 274–275 (Rituale 6).

The death of the Democratisation of the Afterlife

Harold M. Hays

So much has been written against the theory of the democratisation of the afterlife that it may be deemed obsolete. Even two encyclopaedia entries have been prepared which survey the major objections against it, definitively declaring that the events which it supposes did not take place.¹ This development speaks to just how acceptable its refutation should be by now. Challenges to the theory began appearing in earnest a decade and a half ago,² spurred on in part by the discovery of religious texts from the Balat coffin of the official Medunefer,³ datable to the reign of Pepy II.⁴ As these have not been addressed by a proponent of the old theory, it should be safe to say that current scholarly opinion sees the theory as quite dead.

My personal experience has been otherwise. When I spoke against the democratisation theory at the Old Kingdom Art and Archaeology congress in 2009, many of the participants seemed rather shocked, and it continues to be taken for granted elsewhere.⁵ The reaction which greeted my discussion and the confidence with which it is still invoked are signs of what I believe to be the actual state of affairs. Though the theory has been critiqued several times, there is still a large proportion of Egyptologists who maintain it. The result in the near term will probably be cognitive dissonance in the field, as the time-honoured commonplace staggers on despite the evidence and arguments.

But the facts have a way of prevailing in the end. The present discussion will contribute to the inquiry on the topic by identifying the roots of the theory's original formulation, and in this way it hopes to complement the general description by Harco Willems of the socio-political environment at its academic birth.⁶ In locating its origin, my discussion will highlight its chief flaw – that it rests upon negative evidence – and argue that the history of religion in the Old Kingdom should rather be based on the evidence that does exist. This point will serve as a springboard for a consideration of two means of access to the afterlife in the Old Kingdom as expressed in non-

royal and royal tombs, knowledge and ritual. Drawing attention to representations of ritual found in royal and non-royal tombs, I hope to show a commonality of belief and practice between king and elite.

1. The birth of the democratisation theory

It is not difficult to find an exposition of the theory. The description of Rosalie David should be perfectly familiar, for instance: ‘Whereas during the Old Kingdom, only the king could expect to enjoy an individual immortality, in Dynasties 11 and 12, this was replaced with a democratisation of beliefs’.⁷ Such accounts usually do not feel obliged to cite a reference in substantiation, so seemingly well understood is the theory. But the story of its origins helps clarify its actual supports and claims.

Mark Smith observes that the democratisation theory had its advent as early as James Henry Breasted's *Development of Religion and Thought in Ancient Egypt*.⁸ Published in 1912, four years after Kurt Sethe's synoptic presentation of the Pyramid Texts began to appear,⁹ his was the first study to make use of these texts in a comprehensive way. It was also the first to situate them within the context of already known corpora, namely the Book of the Dead from the New Kingdom and one from the Middle Kingdom that soon came to be called ‘Coffin Texts’. Breasted observed that in the Old Kingdom the Pyramid Texts ‘were all intended for the king's exclusive use, and as a whole contain beliefs which apply only to the king’. The key reason for this assessment was the ‘significant fact that the nobles of the age made practically no use of the Pyramid Texts in their own tombs’.¹⁰ But in the Middle Kingdom¹¹ such texts were ‘largely appropriated by the middle and official class’ in a situation Breasted described as ‘the popularization of the mortuary customs of the upper classes’.¹² To label the mortuary literature appearing in the Middle Kingdom, Breasted coined the term *Coffin Texts*,¹³ chosen for the typical medium on which mortuary texts then appeared. In terms of content, they were deemed by him to be similar to the Pyramid Texts, ‘identical in function but evidently more suited to the needs of common mortals’.¹⁴ As a corollary to this development, the non-royal dead in the Middle Kingdom received the prefix ‘Osiris’ to his name, ‘so that he not only as of old entered the kingdom of Osiris [*sc.* the necropolis] to enjoy the god's protection and favor, but he now became Osiris and was conceived as king’.¹⁵

As far as the supports of the theory are concerned, Breasted advanced only this: the attested disparity of social distribution of mortuary literature between the Old and Middle Kingdoms, a similar disparity in the use of the epithet ‘Osiris’ as a mark of spiritual attainment, and an assumed difference in appropriateness of content between Pyramid Texts and Coffin Texts. This simple combination constitutes the core of the theory.

It may have struck the reader that in none of the given quotations does Breasted use the term *democratization* itself, preferring instead 'popularization of the mortuary customs of the upper classes' and 'popularization of the old royal hereafter'.¹⁶ To be sure, he does employ the verb *democratize* twice,¹⁷ but it was up to his colleague and friend Alan H. Gardiner to actually use the noun itself. He did so in 1915, just three years after the appearance of Breasted's *Development of Religion and Thought*. The point is not trivial, because Gardiner actually makes no reference to *Development*. And through his discussion one is led to an even older point of origin. In discussing the New Kingdom tomb of Amenemhat, Gardiner remarked:

The investigations of the last few years have made it increasingly evident that until far down in the Old Kingdom no dead man except the Pharaoh himself was identified with Osiris.... Naturally enough the contemporary nobles would be eager to imitate on their own behalf the splendid obsequies of their sovereigns, and the custom of doing so, hesitatingly adopted at first, seems to have become universal before the Middle Kingdom. No adaptation of the ritual to the non-royal character of its new employers seems to have been made, so that we find among the funeral furniture on the sarcophagi and on the tomb-walls belonging to private individuals such unsuitable objects as the statues with kingly crowns.... The identification of all virtuous dead men with Osiris was the ultimate consequence of this usurpation of the royal funerary ritual.¹⁸

Although Gardiner's presentation is quite similar to Breasted's, he does not cite him. And although he couches his discussion in terms of ritual and display, he supports his exposition as follows: 'On the "democratization" of the old funerary literature and the like, see especially Sethe, *Pyramidentexte*, Vorwort, vii'.¹⁹ The evidential substantiation for these assertions, then, is to be found in the demographic distribution of mortuary texts, concerning which one is to consult (especially) Sethe.

Sethe's *Pyramidentexte* is of course the same work that had inspired Breasted, and it is in Sethe's volume that the ultimate origin of the theory may be found. At the place indicated, he asserts that together the texts of the five royal pyramids transcribed in his autographed volumes constitute 'eine enggeschlossene Gruppe'.

And yet in the next breath he observes that texts from later monuments of a different kind were then being continually discovered, and that they contained precisely the same material as that of the 'tightly closed group'. How can that be? In the modern construction of a corpus out of ancient material, any reasonable criterion can serve to make a division, and in this manner one's already colossal workload can be reduced. Consider this: the text of an edition of *Moby Dick* from the 19th century of course has nothing

to do with one published in the 20th century – right? The point is that the division is artificial. The material is real, and time is natural, but the division is not. Insofar as they each have an integral identity beyond their physical manifestations, the texts of the ‘closed group’, those of the five kingly pyramids, escape any boundary put around them. They pour out into the tombs of contemporaneous queens and flow on while maintaining their identities into the Middle Kingdom, no matter the artificial line one draws around them – and this much is already admitted in the first place by Sethe, the one doing the drawing.

But the division is not merely temporal. According to Sethe these later texts of the same sort as the ‘closed group’ belonged

vielmehr einer weiteren Entwicklungsstufe jener alten Totenliteratur an. In den Pyramiden von Sakkara treten uns die Pyramidentexte noch ihrer ursprünglichen Bestimmung gemäß als Königstotentexte verwendet (denn das sind sie ihrem Inhalte nach ursprünglich ausschließlich gewesen) entgegen; auf den anderen [sc. later] Denkmälern sind sie (oder richtiger eine Auswahl bestimmter, immer wiederkehrender Texte daraus) als allgemeine Totentexte für jedermann gebraucht. Es ist hier also wieder einmal das geschehen, was wir so oft beobachten können: was einst nur dem König zustand, haben sich allmählich die Untertanen angemaßt. Wie sie in dem „Gerätefries“ ihrer Särge eine königliche Grabausrüstung für sich beanspruchten, haben sie sich auch die alten Königstotentexte angemaßt und nennen sich, was eigentlich nur beim König Sinn hatte, „Osiris“. Diese Anmaßung der Königsvorrechte ist eine charakteristische Erscheinung für die Zeit nach dem Zusammenbruch des alten Reichs, das Mittelalter der ägyptischen Geschichte (Dyn. 7 ff). In diese Zeit wird man denn wohl auch die ältesten Beispiele der Anwendung der Pyramidentexte auf nichtkönigliche Personen zu setzen haben. Zum Teil mögen sie den Pyramiden der sechsten Dynastie zeitlich noch ziemlich nahe stehen; zum Teil stammen sie auch sicher erst aus dem eigentlichen mittleren Reich (Dyn. 12).²⁰

The central points of Breasted and Gardiner are summed up in this simple and seminal paragraph: the Pyramid Texts were originally for the exclusive use of the king. When they are later found as general mortuary texts for everyone (*jedermann*), it is through an appropriation (*anmaßen*, *Anmaßung*) of royal prerogatives (*Königsvorrechte*). This appropriation included laying claim to the title ‘Osiris’, which properly only had meaning in reference to the king – ‘was eigentlich nur beim König Sinn hatte’. In short, the comparatively narrow distribution of mortuary texts in the Old Kingdom and its expansion in the Middle Kingdom are linked with a demographic expansion of privileged access to a deified afterlife.

2. *The birth of the term Coffin Texts*

This is an important detail, because Breasted, Gardiner and Sethe were the same three scholars who were instrumental in the modern reception of the Old and Middle Kingdom mortuary literature. The term *Coffin Texts* was coined by Breasted in the pages of *Development of Religion and Thought*, and it was together with Gardiner that he launched the Coffin Texts Project of the University of Chicago's Oriental Institute. After the project's initiation in 1922,²¹ and after their erstwhile partner Pierre Lacau withdrew,²² Breasted asked Sethe to nominate one of his students to assume the greater burden of the publication of the Middle Kingdom material, and that was Adriaan de Buck.²³

As the chief datum of the theory resides in the appearance of non-royal mortuary texts in the Middle Kingdom and the absence of such texts in the Old Kingdom, and as these three were instrumental in crafting their modern reception, I believe it is justifiable to say that the democratisation theory is bound up with the modern conceptual division between the two corpora. If this division rested merely in a temporal division between two strata of a single body of literature and a concomitant distinction in social distribution, there would surely be no trouble. But, as shown above, the distinction also has to do with an evaluation of the purpose and nature of content: the Pyramid Texts are defined as exclusively for the use of the king and contain beliefs exclusively applicable to him, and when they are later found in the tombs of non-royal persons, the development is characterised as an 'usurpation' and as 'unsuitable' – notions which resonate to this day. As one recent popular book has it, the Pyramid Texts as a body of literature were 'intended solely for the king', and these were 'adapted for the use of non-royal persons' and as such are called 'Coffin Texts'.²⁴ With another popular account, 'the old religious texts for the protection of the king were usurped and adapted for more widespread use', and the 'revised texts' are now known as 'Coffin Texts'.²⁵ Exclusively for the king, unsuitable, usurpation, adaptation, revision, appropriation: the practical definitions of the terms are wedded to the democratisation theory. It is not only a distinction by time. They are defined by us today by perceived social intention and use of the literature which they exemplify.

Breasted once asserted that Pyramid Texts are to be 'sharply distinguished' from Coffin Texts,²⁶ but how can they be, when they share a considerable body of material – over 400 texts – verbatim? The terms obscure an underlying continuum between mortuary literature from the two periods.²⁷ They create a digital (mis)representation of an analogue and largely lost reality. It is no accident that some of the same scholars who have challenged the democratisation theory have done so while also challenging a conceptual division between Pyramid and Coffin Texts, as with Peter Jürgens and Bernard Mathieu.²⁸ Contributing to that discussion is the identification

of three kinds of general continuities between Old and Middle Kingdom mortuary literature: the verbatim transmission of texts, the Middle Kingdom production of variants of Old Kingdom texts, and the Middle Kingdom construction of new texts out of the Old Kingdom material.²⁹ Even when a text appears to belong to a strictly Middle Kingdom genre, points of contact with the Old Kingdom material can be found.³⁰

Where, precisely, is the adaptation of fundamentally inappropriate content?

3. Pyramid Texts as manifestation of a wider body of literature

From the point of view of the Middle Kingdom, the nonroyal *display* of royal iconography in text and image was clearly acceptable. But display in text and image is not the same as *use* in ritual action and religious belief. If in the Old Kingdom the same mortuary literature was *used* by non-royal persons, then the physical absence of mortuary texts in their tombs must instead be a sign of the constraints of *decorum*,³¹ not lack of access to the afterlife and the texts and rituals by which it was attained.

Absence of mortuary texts in Old Kingdom non-royal tombs was the core fact in the construction of the democratisation theory. According to it, only royal persons have such texts in the Old Kingdom, and therefore they were the only ones who used them and had access to an afterlife. It was precisely this point that Mathieu challenged in his first critique of the theory. As he remarked, it has yet to be demonstrated that there ever truly was a royal exclusivity in mortuary literature, and the absence of texts in non-royal sepulchres would constitute but a fragile argument that there was.³² Later he asserts, ‘Que les particuliers de l’Ancien Empire ne possèdent pas de textes funéraires dans leurs sépultures ne signifie pas qu’ils n’en bénéficiaient pas. Après tout, nul n’imagine que les souverains du Moyen Empire, par exemple, ne bénéficiaient pas d’une destinée glorieuse dans l’au-delà, sous prétexte qu’il n’y a pas de textes gravés dans leurs pyramides’.³³

Indeed, the absence of religious texts from royal Middle Kingdom tombs is a point left unaddressed by the theory. By its logic one should have to understand that only non-royal persons had access to the afterlife at that time – an absurdity refutable by consultation of royal texts from outside the tomb, though the proof (should one care to pursue it) will not come from exemplars of the mortuary literature. No, the absence of religious texts in royal tombs of the Middle Kingdom underscores the difference between *textual display* and *religious action and belief*. While the contents of displayed texts do offer a window into ritual and belief, the actual performances and thoughts they represent are lost in time. Texts are not equivalent to belief and action; they

overlap them. Display of texts is not the same as religious thought and practice.

Nicole Alexanian has argued that changes in customs of burial assemblages between social classes reflect processes of social distinction.³⁴ From this point of view, the display of texts is in part subsumed under the heading *fashion*. Changes in fashion play a game of equilibrium and negotiation, where the intrinsic meaning of what is shown matters less than the differentials and similarities of presentation.³⁵ Religious texts were not inscribed in tombs so as to display the keys to heaven as a proof that a certain social group had access to them while others did not. Their inscription was motivated by the exercise of taste according to an unwritten code of practice, an *habitus* of self-constructed distinction.³⁶ Because the Middle Kingdom elite had resurrected a centuries-old tradition to decorate their tombs, it was natural that the contemporaneous kings did not follow suit. By not doing so, they reinforced existing social distinctions. But these choices of display are not coextensive with religious action and belief.

It cannot be the case that the surviving bodies of texts – call them ‘Pyramid Texts’ and ‘Coffin Texts’ if you will³⁷ – circumscribe the entirety of Old and Middle Kingdom mortuary literature that had once existed in text, action, and belief. As a discursive formation, the Old Kingdom mortuary literature extended beyond what has survived in pyramids of kings and queens. Indeed, this body of literature must have existed well prior to its first attestations in monumental stone. Its component members, its texts, had been composed and recited long before King Unas was born. To adorn the walls of his crypt, he transposed texts from other settings in life.

The most immediate testimony of this fact may be found in shattered fragments of inscriptional decoration from the pyramid temple of Sahure, remnants of a kind of offering list which is keyed in with offering ritual recitations in the Pyramid Texts. Ninety offering ritual Pyramid Texts correspond point for point to the items of the canonical Type A offering list preserved in part in Sahure's fragments. Such offering lists identify a series of rites by specifying the items to be manipulated therein – usually foodstuffs to be presented – while the Pyramid Texts counterparts provide the recitations as well as the same specifications in the same order.³⁸ The fragments serve to connect Pyramid Texts to an above-ground place of performance: the subterranean texts in question are copies of mortuary texts that had been recited as scripts in the above-ground pyramid temple. This means that they had been transposed from a pre-existing setting from outside the burial chambers. In their aboveground context, they served as ritual scripts. In the crypt, they served as decoration, an efficacious artificial voice.³⁹ This solid connection shows that (at least) these texts had already existed long before being physically attested as Pyramid Texts, and it therefore shows that the actual extent of the Old Kingdom mortuary literature goes beyond the physical exemplars we now have.

The testimony for this body of literature from outside the crypt appears only in remnants. The recent, unprecedented discovery of an inscribed fragment of a wooden chest of a queen of Pepy I⁴⁰ is a reminder of just how fragile wood and papyrus are. And of course it is precisely in the form of the latter that the ritual scroll would have existed.⁴¹ The Pyramid Texts constitute only a portion of the total discursive formation. The existence and use of all the other lost stone, wood, and papyrus exemplars (not to mention acts of speech) only seem less real because they are not tangible today. And just as one might evidentially infer that the Middle Kingdom king had access to an afterlife and had use of mortuary literature, so is it inferable that non-royal persons of the Old Kingdom had access and use of the same kinds of texts as are preserved in the pyramids. As we shall see.

The permeable social boundaries of the total discursive body may be located by consideration of all the evidence, including statements in the Pyramid Texts themselves.⁴² The presence of such words as *mr* ‘pyramid’⁴³ would seem to indicate that some texts had been composed specifically for a royal beneficiary, since that architecture was distinctive to the highest stratum of society. But equally it may be inferred by content that some Pyramid Texts had not been composed for a royal beneficiary, as has been pointed out by Edward F. Wente.⁴⁴ For example PT 467 has the dead king declaring that he has not striven with... the king. In that text, as written, the *ni-sw-t* must be a person separate from the deceased. This also is the case with PT 486, in which the dead king declares that he is not taken away to the king and affirms that he is unpunished. Unpunished? But the fundamental principle of sovereignty is (paradoxically) to embody the law and to be exempt from it.⁴⁵ As composed and transcribed onto the walls of the tombs of Pepy I and Pepy II, these texts do not situate the deceased in the royal social class, or else they would be meaningless. The content of these texts and others⁴⁶ indicates that multiple social strata contributed to the production and participated in the use of the Pyramid Texts. Further, material seemingly composed with a particular social class in mind could be taken up by others. In the case of texts like PT 467 and 486, one sees the king adopting material written for those of lesser social status and doing so without adaptation – and yet the theory claims that the Pyramid Texts were for exclusively royal use. Because the larger corpus of Old Kingdom mortuary literature had also existed on wood and papyrus, in point of fact one cannot know the full extent of its distribution and use without consultation of evidence beyond mere physical possession.

4. The nature of the desired afterlife: Osiris and Akh

One of the elements of the democratisation theory is that, in the Old Kingdom, only the king aspired to become Osiris, as indicated by the use of that god's name prefixed to the king's. It is certainly the case that spiritual attainment was expressed by identifying oneself with Osiris. In the Pyramid Texts the formulation *wsir NN* is abundantly attested in texts performed by priests for the deceased,⁴⁷ a category which may therefore be called sacerdotal.⁴⁸ But the social distinction supposed by the theory is again based on negative evidence – and doubly so, since the combination of epithet plus name is attested almost exclusively in the Pyramid Texts themselves. But it is noteworthy that, *outside* the royal sepulchres, the formula Osiris <name> is attested in the Old Kingdom only in application to *non-royal persons*,⁴⁹ a detail that was apparently unknown to the three authors of the theory at the time of its crafting. Based on a careful typological dating of non-royal burial chambers, Edward Brovarski has shown that non-royal persons employed the epithet Osiris as early as the middle part of the reign of Pepy II.⁵⁰

This is about a century later than the formulation's attestation in the pyramid of Unas, but there are factors that warrant caution in seizing upon the temporal difference in the construction of a historical picture. Since the use as epithet also continued to be rare in non-royal venues during the First Intermediate Period, one may suppose with Khaled Daoud that its display at that time might still have been thought provocative.⁵¹ In my view, this is an assessment which concerns what was fitting to represent. In other words, it is again a question of fashion. Another important factor is that the non-royal use of the epithet is ordinarily found before the Middle Kingdom in the context of the offering list, which is a representation of the offering ritual,⁵² and the Type A offering list is found in non-royal tombs long before the first appearance of the Pyramid Texts – indeed, even earlier than the fragments of this list from the pyramid temple of Sahure. The actual recitations of the ritual, naturally not shown in the offering lists, habitually employ the *wsir* <name> formulation. This fact creates a quandary: before the reign of Pepy II, how was the non-royal deceased referred to in the offering ritual? There is no evidence to provide an answer.

Instead of creating history out of silences, it would be better to draw conclusions from what can be positively seen. The word *wsir* emerges some fifty years before it is found in the Pyramid Texts of Unas, and it does so, remarkably, in a non-royal tomb. As Mathieu observes,⁵³ the first securely datable attestation is from the middle of the fifth dynasty during the reign of Niuserre, in the tomb of the non-royal personage Ptahshepses. There, it appears in the divine formula *hṭp-dī-wsir* ‘the offering which Osiris gives’.⁵⁴ But the god's entry to the divine formula – *hṭp-dī-<god>* – is part of a wider phenomenon in the fifth dynasty. Whereas in the fourth dynasty only Anubis is featured in the divine formula,⁵⁵ in the fifth multiple gods appear,⁵⁶ including Osiris⁵⁷ and Khentimentiu ‘Foremost of the Westerners’.⁵⁸ Thus the advent of Osiris coincides with the modification of a traditional religious

formula.

Aspects of the treatment of Osiris, Anubis and Khentimentiu suggest that their roles were being refined in the fifth and sixth dynasties. Two attestations of the term *ḥnti-imn-tiw* from the Archaic Period – at which time it shows its oldest writing, with *mn*-game-board sign and jackal determinative – were previously understood to represent an independent jackal deity,⁵⁹ but Terence DuQuesne has recently asserted that the jackal sign in question should be read as *inpw*.⁶⁰ This fits in with the historical attestations of *ḥnti-imn-tiw* and *inpw* in connection with the offering formula in the fourth and fifth dynasties. First only *inpw* is found in it in the fourth dynasty, then *ḥnti-imn-tiw* as an epithet of *inpw* in the early fifth dynasty,⁶¹ and then *ḥnti-imn-tiw* independently in the mid- to late fifth dynasty.⁶² Thus Khentimentiu seems first to be an epithet or manifestation of the god Anubis before splitting off from him.

The split seems to occur at about the time that the name of Osiris is first attested, and yet at about that same time, the newly attested god is already intimately associated with Khentimentiu. The term *ḥnti-imn-tiw* begins to be appended to the name Osiris as an epithet in the late fifth dynasty or early sixth dynasty,⁶³ and in the Middle Kingdom it serves regularly as such.⁶⁴

Thus, *ḥnti-imn-tiw* creates a kind of commutative bond between Osiris and Anubis. The transfer of the term is an indication of the close relations between Osiris and Anubis in this period.⁶⁵ Another is their sharing of the designations ‘Lord of the West’,⁶⁶ ‘Lord of Abydos’,⁶⁷ and ‘Lord of the Sacred Land’.⁶⁸

In summary, while in the fourth dynasty only Anubis appears in the divine formula *ḥtp-di-<god>*, in the fifth all three gods figure into it. At that time Khentimentiu also appears as an epithet to Anubis, but seems to split away from that god, and then is joined with Osiris, and the three share further designations. The relations suggest that these gods were not yet as differentiated as they would later be. Osiris's sphere of significance overlapped that of Anubis, and it is in that context that he is introduced to the divine formula.

The Pyramid Texts show a slightly different story. While the god Osiris is attributed anthropomorphic determinatives in non-royal fifth dynasty texts (beginning with his very first attestation), there is a Pyramid Text which textually identifies him as a jackal,⁶⁹ just as Anubis traditionally and Khentimentiu originally⁷⁰ are. In conformity with the Archaic spellings, Khentimentiu receives the jackal determinative (or specification as Anubis) in one text,⁷¹ and there are a number of others with Archaic phonetic spellings of his name.⁷² It is also noteworthy that, while Khentimentiu is applied to Anubis as epithet in a number of Pyramid Texts passages,⁷³ this does not occur with Osiris himself, though some passages do very strongly associate them.⁷⁴ It is of further interest that Osiris does not receive the

epithet ‘Lord of the West’ in the Pyramid Texts, nor the more common ‘Lord of Busiris’,⁷⁵ though outside the pyramids he does. With a rich body of comparative material dealing with the same gods, these details show a slightly different treatment, including obsolescent representations in the Pyramid Texts. This suggests that, at least so far as these gods are concerned, elements of the body of literature from which the Pyramid Texts were drawn are older than our earliest attested appearances of Osiris. Given the fact that the offering list is already attested before Osiris, and that it keys in with Pyramid Texts, this is just what one would have expected. Assuming that the god existed in belief already prior to his first attestation, as just argued, it may perhaps be in part due to issues of decorum that his name does not appear before the fifth dynasty – it was perhaps a question of propriety, a truly sacred name.

At the time when Osiris finally does enter the documentary record, so also do predicative statements in which the non-royal dead identify themselves as Akhs, divine beings.⁷⁶ This is an important point, because one of Osiris's chief identities is as an *akh*.⁷⁷ Consider the following passages:

PT 223 §215b-c: ‘O Osiris, Ba who is among the Akhs!’

PT 305 §472b: ‘The ladder is built by Horus before his father Osiris, when he goes to his Akh’.

PT 365 §623a: ‘for you are an Akh, one whom Nut bore’. PT 422 §754c: ‘This Akh who is in Nedit comes’.

PT 437 §793b: ‘Raise yourself as Osiris, as the Akh, the son of Geb, his first (born)!’

PT 468 §899a: ‘Let Osiris live, let the Akh who is in Nedit live!’ PT 479 §990a: ‘O Re, impregnate the belly of Nut with the seed of the Akh who is in her’.

PT 553 §1354b: ‘Osiris has given you Akh-ness’.

PT 556 §1385c: ‘for this father of mine Osiris Pepy has truly become an Akh’.

PT 637 §1804a-b: ‘Be equipped with the form of Osiris, being an Akh thereby more than the Akhs’.

PT 1005 P/S/Se 89–91: ‘A[rise to S]eth, a[s Osiris], as the Akh, the son of Geb!’

In the Pyramid Texts, the word *akh* is found in about 175 instances, a frequency which helps make it one of the most important concepts in the corpus. Of special interest are declarations that the deceased has become an Akh in the Akhet, the horizon.⁷⁸ This phraseology is a transparent reference to rebirth and resurrection as the sun god in the east. It is an expression of attainment. And because Akh-hood was a goal sought by non-royal persons as well, what is at hand is not a rupture between classes, but a commonality of aspiration.

5. Means of becoming an Akh: ritual and knowledge

What may be positively seen is that king and elite both aspired to become an Akh. The connection is of great value, as these aspirations are recorded within the contexts of two different discourses. Transposed from their original contexts, the Pyramid Texts were displayed in sealed-off, subterranean chambers, and there they address the deceased and speak of him in the third person. Meanwhile, the non-royal statements almost always appear in above-ground accessible areas,⁷⁹ and they are spoken by the deceased himself in addressing a human audience. The Pyramid Texts are texts designed to bring about a particular state, and it is in a ritual context that they make reference to being an Akh. The non-royal texts designate the dead as an Akh, but they are not themselves the instruments of achieving it.

Nevertheless, the non-royal texts do refer to the means by which this state is attained: ritual and knowledge.⁸⁰

a. Knowledge of that by which one becomes an Akh (*rh 3h ny*)

*Ti*⁸¹ (*fifth dynasty, second half; Saqqara*)

I know everything by which an Akh becomes an Akh who is passed to the necropolis; [I know everything by which he is equipped with the great god]; I know everything by which he ascends to the great god.

*Hezi*⁸² (*Teti; Saqqara*)

I am an Akh more skilful than any Akh; I am an Akh more equipped than any Akh: I know everything skilful, by which an excellent Akh becomes skilful, and by which an Akh who is in the necropolis becomes an Akh.

*Merefnebef*⁸³ (*Userkare/Pepy I; Saqqara*)

And I know everything by which an Akh who is passed to the necropolis as one venerated of the great god by the king becomes an Akh. And I know everything by which he ascends to the great god.

*Nekhbu*⁸⁴ (*Pepy I; Giza*)

I am a skilful Akh: I know everything by which one is an Akh in the necropolis.

*Ibi*⁸⁵ (*Pepy II; Deir el-Gabrawi*)

I am a skilful equipped Akh: I know every secret magic of the Residence, every secret by [which] one becomes an Akh [in] the necropolis.

*Idu Seneni*⁸⁶ (*Pepy II or later; El-Qasr wa es-Saiyad*)

I am a [skilful] and efficacious Akh: I know every secret of hieroglyphs by which one becomes an Akh in the necropolis.

*Tjetu I*⁸⁷ (*late sixth dynasty; Giza*)

[I am] a skilful lector priest who knows his utterance, and I know all the skilful magic by which he becomes an Akh in the necropolis.

*Shen'ay*⁸⁸ (*late sixth dynasty; Abydos*)

I know all the magic by which one becomes an Akh in the necropolis.

*Bebi*⁸⁹ (*sixth dynasty or later; Giza*)

I know everything by which one becomes an Akh in the necropolis.

b. Performance of ritual by which one becomes an Akh (*iri ih-t ih-t ny*)

Ti (*fifth dynasty, second half; Saqqara*)

Every worthy ritual by which one becomes an Akh has been performed for me, that which is to be done for a skilful one among the Akhs, by the service of the lector priest; I am initiated [to every worthy rite by which one becomes an Akh].

*Nima'atre*⁹⁰ (*fifth dynasty, second half; Saqqara*)

One whom the king loves is the lector priest who will enter this tomb of mine to perform ritual according to the secret writing of the craft of the lector priest.... The king commanded that every ritual (by) which one becomes an Akh be done for me.

*Kaikherptah*⁹¹ (*Izezi or later; Giza*)

One whom the king and Anubis loves is the lector priest who will perform for me the rite by which an Akh becomes an Akh according to that secret writing of the craft of the lector priest.

*Nihetepptah*⁹² (*Izezi or later; Saqqara*)

Every worthy ritual (by) which one becomes an Akh has been done for me.

*Ankhamahor*⁹³ (*Teti; Saqqara*)

[O lector priest] who will enter this tomb of mine in order to do the

Akh ritual according to that secret writing of the craft of the lector priest, */// /// ///* his name, and recite for me the equipped *shw*.

*Mereruka*⁹⁴ (*Teti; Saqqara*)

As reconstructed, this text matches that of Ti given above.

*Merefnebef*⁹⁵ (*Userkare/Pepy I; Saqqara*)

And all the Akh and worthy rituals have been performed for me – Wenis-ankh is his great name⁹⁶ – [which are done for the one skilful among] the Akhs by the service of a skilful lector priest who really truly knows the rituals. And I am initiated to the secrets of the great god.

*Shen'ay*⁹⁷ (*late sixth dynasty; Abydos*)

Every ritual by which one becomes an Akh has been performed for me.

Claims of being an Akh by knowledge and ritual begin to appear toward the end of the fifth dynasty and continue through the sixth. Usually the two phrases occur separately. They are optionally included rhetorical flourishes, not components essential to tomb decor. In many cases, the statements are presented as part of a threat, as with Shen'ay, who says to visitors to his tomb:

As for anyone who will take anything of mine by force, I will be judged with them in the necropolis by the great god when they are in the West, and they will be poorly remembered in the necropolis, for I am a skilful Akh: I know all the magic by which one becomes an Akh in the necropolis, and every ritual by which one becomes an Akh has been performed for me.

In order to make the threat persuasive the deceased claims to be an Akh. To support that claim, the deceased indicates that two ways by which that state is attained have been achieved by him. One becomes an Akh by knowledge of arcana and by the performance of ritual.

What is the nature of this knowledge? Idu claims to be an Akh by 'knowing every secret of hieroglyphs', and similarly Ibi, whose status as an Akh is due to his knowledge of 'the secret magic of the Residence', the capital itself. It is not a question of drawing a parallel between two different forms of knowledge, court secrets on the one hand and non-royal knowledge for the afterworld on the other. It is to know the sacred arcana of the royal circle itself; it is to know hieroglyphic texts.⁹⁸

The phraseology is subject to substantial embroidery, as with the claims of Ti:

[for I am a skilful Akh] */// /// /// /// ///*: every worthy ritual (by) which one becomes an Akh has been performed for me ... I am

initiated [to every worthy rite by which one becomes an Akh]; I know everything by which an Akh becomes an Akh who is passed to the necropolis; [I know everything by which he is equipped with the great god]; I know everything by which he ascends to the great god; I know everything by which he is worthy with the god.

He mentions the routes of ritual and knowledge, and expands the basic formulae. The rituals have been performed, Ti knows everything needed to become an Akh, and he knows how to ascend to the great god. The last statement offers a palpable link to an inscription to which David P. Silverman and others have drawn attention.⁹⁹ The owner of the inscription, Sabni, is an Akh because of his knowledge of a text of ascending. He says, 'I know the utterance of ascending to the great god, lord of the sky'.¹⁰⁰ The fusion of Akh, knowledge, ascent, and sky make the passage unequivocal: the deceased claims to know a text by which one can literally get into heaven.

As Mathieu has pointed out,¹⁰¹ the kind of text mentioned by Sabni is semantically parallel to one mentioned in the Pyramid Texts. Priests in the process of purifying the deceased are said to perform for him the 'the utterance of ascent for Pepy, for life and dominion, that Pepy might ascend to the sky' (PT 254 §281b). The passage makes it clear that the performance of such a text is a means of getting to the sky. In another Pyramid Text the goal is also the sky, and it is reached through knowledge of texts and magic:

May you stride the sky at your striding, and travel the North and the South in your travelling! As for the one who truly knows it, this utterance of Re, and performs it, this magic of Harakhti, he will be one known of Re; he will be a companion of Harakhti. Neferkare knows it, this utterance of Re, with Neferkare performing this magic of Harakhti: Neferkare is one known of Re, and Neferkare is a companion of Harakhti, with the hand of Neferkare grasped at the sky among the Followers of Re. (PT 456 §854–856)

The asseveration is generic: the one with access to the sky is the one who has technical knowledge. It is not the king alone, nor one who has physical possession of a text in his tomb; it is not social stature which opens the earth, and it is not a physical text. Knowledge was the condition of access. Hence yet another Pyramid Texts passage declares, 'He has opened the earth through what he knows' (PT 254 §281b). The hieroglyphs of the Pyramid Texts represent the object of knowledge, which is deployed in ritual to escape from the tomb and ascend to the sky.

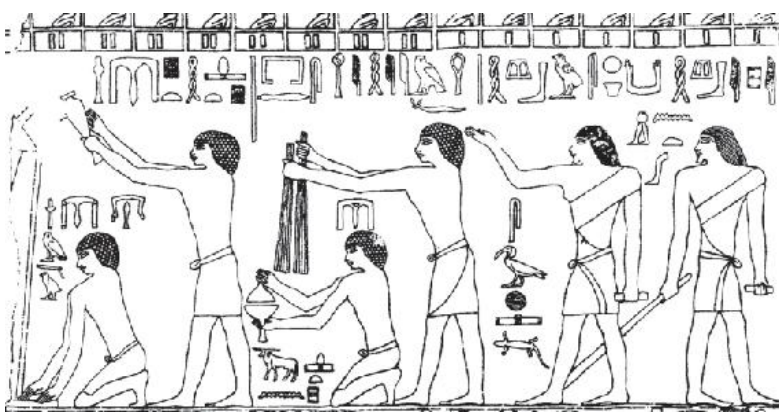


Fig. 1: Ritualists under Offering List, after Harpur and Scremin, Ptahhotep, 365

The Pyramid Texts also speak of the efficacy of ritual in attaining the desired afterlife state. It is brought about by the performance of ritual, as in PT 77. In it, a priest addresses oil while applying it to the deceased, telling it that it is the means by which one becomes an Akh:

O oil, oil, where were you? O that which is in the brow of Horus, where were you? In <the brow> of Horus you were; in the brow of Unas do I put you, that you give pleasure to him through your influence, that you make him an Akh through your influence. (PT 77 §52)

The deceased is frequently informed that what is important is the ritualised, vocal performance of priests: ‘The land speaks: the doors of Aker open to you; the doors of Geb spread open to you, and you go forth at the voice of Anubis, when he as Thoth makes you an Akh’ (PT 437 §796).¹⁰² Because priests speak in the role of gods, they are able to make the deceased into an Akh.¹⁰³ The common denominator to the application of oil and vocal performance is recitation, for even the application of oil is accompanied by words. It is the power of the word to attribute meaning that makes the physical deed sacred and efficacious.¹⁰⁴ The state of being an Akh is induced by ritual.

In the non-royal texts the knowledge and rituals by which one becomes an Akh are not given; they are only laid claim to. The Pyramid Texts, on the other hand, constitute these very things. The non-royal deceased lays claim to knowledge and ritual as supports to exhortations to the living, as when backing up a threat or encouraging the performance of ritual for him. He does not present this knowledge or the ritual scripts as the Pyramid Texts do, but this is because of a difference in the nature of the two discourses. And yet despite fundamental differences in discursive structure, both indicate a harmony of means and end between king and courtier.

6. *šḥw*, Pyramid Texts, and pictorial representations of mortuary service¹⁰⁵

Given the fact that both forms of discourse express a common goal, and since some of the non-royal statements even make reference to secret texts as substrate for attainment, there are tangible grounds to suppose that the knowledge and rituals were common to king and noble alike. The textual basis for this body of knowledge and its ritual scripts constitute a discursive formation of Old Kingdom mortuary literature, only partially preserved to us in copies found in royal tombs. Kaiherptah appeals to ‘the lector priest who will perform for me the rite by which an Akh becomes an Akh according to that secret writing of the craft of the lector priest’. Rites – literally *ḥt* ‘things’ – are to be done according to secret writings, the technique of the lector priest. Secrecy was bound up with activities requiring technical knowledge, and therefore Anubis was the *ḥry-šst* par excellence.¹⁰⁶ His was the ultimate knowledge, the goal of which was to ensure resurrection.

Laurent Coulon concludes that the secret writings and craft of the lector priest must constitute *šḥw*, ‘Akh-makers’, recitations without structural difference with the inscriptions in the royal pyramids.¹⁰⁷ The connection he makes is inevitable. Pictorial representations of mortuary service become stereotyped in the Old Kingdom, to include the royal and non-royal deceased at offering table, offering list, and priests performing rites. Normally, one of the papyrus-bearing priests will receive the caption *šḥt* ‘making into an Akh’, or, as in Fig. 1, *šḥw ššw* ‘(reciting) numerous *šḥw*’.

The connection made by Coulon is resonant of Sethe's later modulation of his opinion of the religious history of the Old Kingdom. Although Sethe may be deemed as one of the joint authors of the democratisation theory, some twenty years after the publication of the first volume of his *Pyramidentexte* he asserted that, even though one does not find a proper body of non-royal mortuary texts for centuries, the existence of the same is indirectly attested by Old Kingdom pictorial representations of ritual performances in accessible cult chambers. Such scenes show a lector priest reciting *šḥw* with a papyrus roll in hand, just as one sees in Fig. 1, and according to Sethe *šḥw* was actually the technical term for mortuary literature in general.¹⁰⁸ The conclusion is inevitable, because the term is applied to Pyramid and Coffin Texts with some regularity in the Middle Kingdom. Since the attainment of the state of being an Akh is a chief goal of the Pyramid Texts, and as the meaning of the term *šḥ* is ‘to make into an Akh’, it may be said that the title *šḥw* indicates the purpose of the whole body of mortuary literature.¹⁰⁹ Its texts were intended to make the deceased into an Akh. Table 1 lists the ones specifically designated as such.

Table 1: Pyramid and Coffin Texts entitled as *šḥw*

Text	Source
PT 77	Sq18X
PT 81	Sq18X
PT 213	M1C
PT 214	L-A1
PT 220	Sed1Cop, L-A1
PT 422	Sq18X
CT 1	MC 105
CT 7	MC 105
CT 63	TT 353 (NK)
CT 66	B10C
CT 73	B10C
CT 74	Sq3C and T2C
CT 335	BH1Br
CT 842	T2C

Significantly, two texts to receive the title are PT 77 and 81, for presenting cloth and oil.¹¹⁰ These two are from the offering ritual, and from the very same set of ritual actions and recitations that match the offering list. The facts coalesce as follows: 1) PT 77 and 81 are called *shw* in the Middle Kingdom, 2) PT 77 and 81 correspond to two items of the offering list, and 3) the lector priest beside the offering list often receives the caption ‘Many *shw*’ or ‘Making into an Akh’. These are not ruptures between social classes. What the evidence shows are continuities between multiple dimensions of evidence. This is the simplest conclusion: the *shw* given in the hieroglyphs of the Pyramid Texts constitute the words of the rites pictorially shown performed for elite persons.

The democratisation theory really is obsolete. Non-royal persons claimed to attain the status of Akh-hood in the Old Kingdom, and that is the purpose of the Pyramid Texts. Non-royal persons claimed to attain this status by ritual and knowledge, and that is what the Pyramid Texts embody. Non-royal persons are represented as the object of the offering ritual, and it is keyed in with ninety Pyramid Texts. The captions accompanying representations of mortuary ritual for non-royal persons state that they are being made into an Akh or that *shw* are being performed for them, and the term *shw* is a title for texts of the mortuary literature, including Pyramid Texts. These are continuities of religious belief and practice.

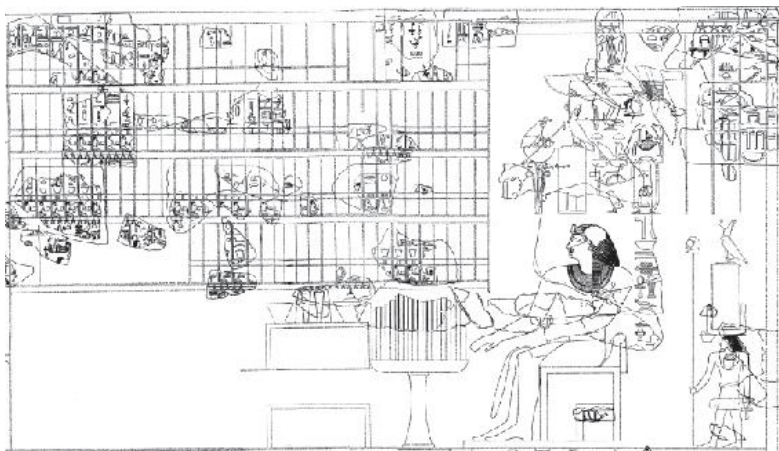


Fig. 2: Mortuary Service for Pepy II, G. Jéquier Le monument funéraire de Pepi II, II (Cairo 1938), pl.61



Fig. 3: Nascent Type A Offering List. Simpson, Kawab, Khafkhufu I and II, Fig. 32

Continuities in representation of mortuary cult for both royal and non-royal dead extend from the Old Kingdom to the New Kingdom and beyond.

Since the beginning of the fifth dynasty, mortuary service representations contain three stereotyped elements: ritualists, offering list, and deceased at offering table.¹¹¹ Most remarkable about this pattern is that surviving fragments of decoration from the sanctuaries of pyramid temples contain precisely these components. At the right of Fig. 2, the deceased Pepy II is shown seated at the offering table, the offering list in front of him, and ritualists next to that.¹¹² They do for the king the same kinds of things as are done for the non-royal Ptahhotep, and for dozens of other members of the elite. The same gestures, the same ritual poses – all pictorially amplifying the meaning of the offering list. The actions ritually done for the king are the same as the actions ritually done for the elite.

And these are traditional acts. After the Old Kingdom, the king is the beneficiary of the same activities, as for Queen Hatshepsut in the eighteenth dynasty temple at Deir el-Bahari.¹¹³ There the ritualists are integrated into a scene that was already stereotypical for centuries, and in her case the representation is even more forthright: utterances found in the Pyramid Texts are integrated into the offering list and combined with utterances found in the Coffin Texts. A contemporary of Queen Hatshepsut is the official Puyemre. He displays essentially the same stereotypical scene, down to the overt inclusion of texts.¹¹⁴ Deceased at offering table, offering list, and ritualists are the standard elements of mortuary service representations in the Middle Kingdom as well, as in the tomb of Amenemhat, an official contemporary with Senwosret I.¹¹⁵ From the offering chapel of his king's pyramid temple, precisely the same sort of representation may be reconstructed, including the three stereotypical elements.¹¹⁶ Returning to the Old Kingdom, before Pepy II, one finds fragments of the offering list with Sahure and other fifth dynasty kings.¹¹⁷ But Sahure's fragments are not the earliest elements of this kind of list. They appear in canonical composition and order already at the very beginning of the fifth dynasty in the tomb of the non-royal person Debeheni.¹¹⁸ His is the earliest attested Type A offering list with ninety matches to the offering ritual Pyramid Texts of the pyramid of Unas. But precursors to this list appear already in the middle of the fourth dynasty, when nearly all of the elements of offering lists from the tomb of Khafkhufu are found to match those of Debeheni's canonical form, though not yet in canonical order (Fig. 3).

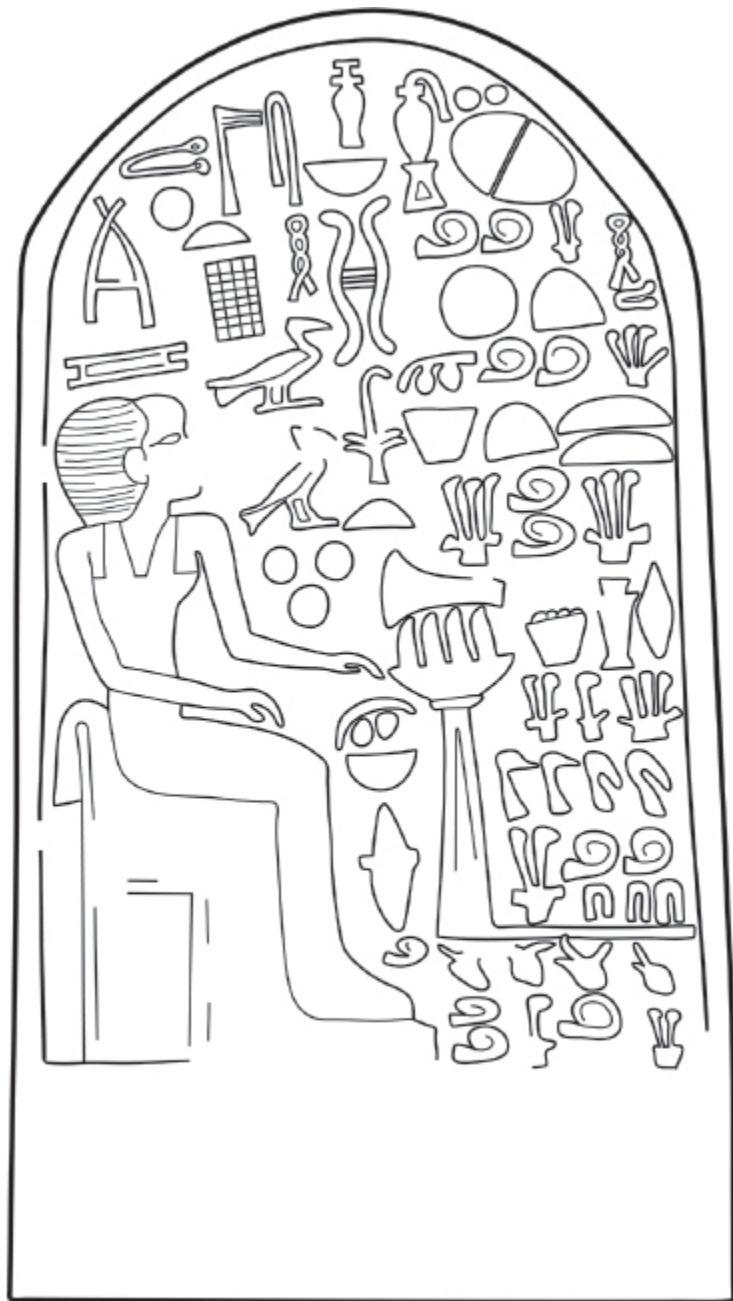


Fig. 4: Bankfield Stele. Author's drawing after Gardiner JEA 4 (1917), pl. 55

Scholars including Hermann Junker, Winfried Barta and James P. Allen have noticed the interlocking connections between the canonical offering list and the offering ritual Pyramid Texts and have concluded that the latter give the recitations for the rites specified in the former.¹¹⁹ And as this offering list

is first attested in the tomb of the non-royal personage Debeheni at the beginning of the fifth dynasty and unmistakable elements of it are already found in a non-royal tomb securely dated to the reign of Khufu,¹²⁰ it is crucial to observe that it begins to emerge over two centuries before Unas. When did 'democratisation' take place? If there ever was such a thing, it must have taken place as early as Khufu's time.

In fact, the elements of the stereotyped scenes of mortuary service already begin to appear as early as the second dynasty with one of the earliest representations of the 'Speisetischszene' (Fig. 4). A stela once in the Bankfield Museum,¹²¹ now lost, shows a king's daughter¹²² seated at an offering table, and above her appear perhaps the earliest attestations of the Egyptian rites of censuring and libating.

Turning the clock back even further, one may discern in the foetal posture of the buried non-royal dead indications of a belief in the afterlife in the first dynasty. As Christiana Köhler supposes, the posture suggests an intent to be reborn from the womb of the grave¹²³ – just as is found in the much later written sources of the Pyramid Texts, when the deceased is reborn from the sky-goddess, who is embodied in the tomb.¹²⁴

7. Conclusion

According to the written sources, access to a beatified afterlife was not dependent on the possession of texts on one's tomb walls. It was dependent on knowledge and ritual, both of which in the Egyptian world are epitomised in the language of recitation. Access to a desirable afterworld was dependent on these two features, and therefore it was necessarily linked to education and economic power, both of which were conditioned by the king's mighty command.

The Pyramid Texts are a profoundly important manifestation of a wider body of mortuary literature that transcended the bounds of what has survived. Texts of this literature were also copied on perishable furniture and papyri, virtually all of which are lost. More than one social stratum contributed textual content to the Old Kingdom mortuary literature. Among the Pyramid Texts there were surely texts originally composed for non-royal persons. Their inclusion in the Pyramid Texts indicates that social categories of origin were not restrictive, but that texts were transported across social boundaries by adoption.

As is vividly brought home by the shared manner of pictorially representing the same stereotypical scenes of mortuary service, there was a common fund of rites equally valid for king and elite, and there is concrete evidence of their use for non-royal persons already in the fourth dynasty. Along with this, the fact that non-royal persons label certain kinds of texts as

shw in the Middle Kingdom gives one tangible basis to propose that the *shw* shown performed in Old Kingdom elite tombs were precisely texts from the mortuary literature of which the Pyramid Texts formed part. These same rites were those that made the deceased into an Akh. Upon their performance and through their knowledge, the dead were supposed to attain to an exalted state.

Not so the theory of the democratisation of the afterlife.

¹ See M. Smith, 'Democratization of the Afterlife', in J. Dieleman and W. Wendrich (eds), *UCLA Encyclopedia of Egyptology*, (Los Angeles 2009, <http://repositories.cdlib.org/nelc/uee/1147>, accessed 5/6/2009), and H. Willems, 'Die Frage der sogenannten "Demokratisierung des Jenseitsglaubens" vom späten Alten Reich bis zur Zweiten Zwischenzeit', to appear in J. Assmann, H. Roeder (eds), *Handbuch der altägyptischen Religion* (Handbuch der Orientalistik; Leiden forthcoming). I heartily thank the latter for graciously providing me with a draft copy of this crucial work.

² P. Jürgens, *Grundlinien einer Überlieferungsgeschichte der altägyptischen Sargtexte* (GÖF IV. Reihe Ägypten 31; Wiesbaden 1995), 86; D. P. Silverman, 'The Nature of Egyptian Kingship', in D. O'Connor and D. P. Silverman (eds), *Ancient Egyptian Kingship* (PdÄ 9; Leiden 1995), 80–82; id., 'Coffin Texts from Bersheh, Kom el Hisn, and Mendes', in H. Willems (ed.), *The World of the Coffin Texts* (Leiden 1996), 140–141; K. Nordh, *Aspects of Ancient Egyptian Curses and Blessings* (Uppsala 1996), 168–172; B. Mathieu, 'Que sont les Textes des Pyramides?', *Égypte Afrique et Orient* 12 (1999) 20; id., 'La distinction entre Textes des Pyramides et Textes des Sarcophages est-elle légitime?', in S. Bickel, B. Mathieu (eds), *D'un monde à l'autre. Textes des Pyramides et Textes des Sarcophages* (BdE 139; Cairo 2004), 256–258; H. Willems, *Les Textes des Sarcophages et la démocratie* (Paris 2008), 131–228. Earlier critiques of the theory had already been made in R. E. Briggs, 'Excursus VII: Astronomy in the Pyramid Texts', in S. A. B. Mercer, *The Pyramid Texts in Translation and Commentary IV: Excursuses* (London 1952), 43, and J. Bourriau, *Pharaohs and Mortals. Egyptian Art in the Middle Kingdom* (Cambridge 1988), 83 and cf 86. On non-royal access to religious rituals and beliefs in the Old Kingdom, see also J. Baines, 'Restricted Knowledge, Hierarchy, and Decorum: Modern Perceptions and Ancient Institutions', *JARCE* 27 (1990), 11 n. 60; H. Altenmüller, 'Der Grabherr des Alten Reiches in seinem Palast des Jenseits: Bemerkungen zur sog. Prunkscheintür des Alten Reiches', in C. Berger el-Naggar and B. Mathieu (eds), *Études sur l'Ancien Empire et la nécropole de Saqqâra dédiées à Jean-Philippe Lauer I* (Montpellier 1997), 16–17; H. Altenmüller, 'Der Himmelsaufstieg des Grabherrn – Zu den Szenen des *zš wsd* in den Gräbern des Alten Reiches', *SAK* 30 (2002), 36; N. Alexanian, 'Himmelstrepfen und Himmelsaufstieg. Zur Interpretation von Ritualen auf Grabdächern im

Alten Reich', in H. Guksch, E. Hofmann and M. Bommas (eds), *Grab und Totenkult im Alten Ägypten* (Munich 2003), 35–38.

³ Jürgens, *Grundlinien*, 86; Silverman in O'Connor and Silverman (eds), *Ancient Egyptian Kingship*, 80; Nordh, *Aspects*, 174; and Mathieu, in Bickel and Mathieu (eds), *D'un monde à l'autre*, 254. cf D. P. Silverman, 'Textual Criticism in the Coffin Texts', in J. P. Allen et al., *Religion and Philosophy in Ancient Egypt* (YES 3; New Haven 1989), 36. For the texts, see M. Valloggia, *Balat I. Le mastaba de Medou-Nefer, Fasc. I* (FIFAO 31.1; Cairo 1986), 75–76. See also L. Gestermann, 'Sargtext aus Dair al-Biršā. Zeugnisse eines historischen Wendepunktes?', in Bickel and Mathieu (eds), *D'un monde à l'autre*, 210–211 with n. 39, where the ambiguity of identification for the extremely fragmentary remains is highlighted. The excavations at Tabet al-Guesh yielded a non-royal wooden coffin with religious texts that may turn out to be dated to the reign of Pepy I, according to the presentation of V. Dobrev, 'Old Kingdom "Houses of Eternity" and Late Period "Mastabas" at Tabet al-Guesh (South Saqqara)', given at the congress 'Abusir and Saqqara in the Year 2010' in Prague 2010.

⁴ As there are items from his tomb naming Pepy II (Valloggia, *Balat I*, 167–170). A further tomb with religious texts, that of Meni at Dendera (D1D), is sometimes dated to the Old Kingdom and has been known and usually ignored since the end of the 19th century. For references to the dates of the Balat coffin and D1D, see Jürgens, *Grundlinien*, 70 n. 21.

⁵ As in N. Picardo, "'Semantic Homicide" and the So-called Reserve Heads: The Theme of Decapitation in Egyptian Funerary Religion and Some Implications for the Old Kingdom', *JARCE* 43 (2007), 226 with references to other adherents in his n. 32 and J. P. Allen, 'Some Aspects of the Non-royal Afterlife in the Old Kingdom', in M. Bárta (ed.), *The Old Kingdom Art and Archaeology* (Prague 2006), 9.

⁶ See Willems, *Les Textes des Sarcophages*, 135–142, and Willems, in Assmann and Roeder (eds), *Handbuch der altägyptischen Religion*.

⁷ R. David, *Religion and Magic in Ancient Egypt* (London 2002), 154.

⁸ Smith, in Dieleman and Wendrich (eds), *UCLA Encyclopedia of Egyptology*, 2.

⁹ K. Sethe, *Die altaegyptischen Pyramidentexte I* (Leipzig 1908).

¹⁰ Both quotations are from J. H. Breasted, *Development of Religion and Thought in Ancient Egypt: Lectures Delivered on the Morse Foundation at Union Theological Seminary* (New York 1912), 99. cf similarly id., *The Oriental Institute of the University of Chicago. A Beginning and a Program* (Chicago 1922), 74; id., *The Oriental Institute* (Chicago 1933), 152; id., *The Dawn of Conscience* (New York 1933), 223–249.

¹¹ Called by Breasted the 'Feudal Age', which he defines as 'a thousand years after the Old Kingdom', and specifically as the 'Twelfth Dynasty',

and thus the ‘early Feudal Age’ with him is coeval to ‘early in the Twelfth Dynasty’, namely the reign of Amenemhat I (id., *Development*, 167, 180, and 249 with n. 1).

¹² ibid, 272, with this and the discussion of which it is part paraphrased in id., *The Dawn of Conscience*, 235.

¹³ id., *Development*, 273 n. 1.

¹⁴ ibid, 272.

¹⁵ ibid, 256; see also ibid, 257, with these two pages paraphrased in id., *The Dawn of Conscience*, 223.

¹⁶ id., *Development*, 257.

¹⁷ loc. cit.

¹⁸ A. H. Gardiner, in Nina de Garis Davies and A. H. Gardiner, *The Tomb of Amenemhēt (No. 82)* (TTS 1; London 1915), 55.

¹⁹ loc. cit., n. 1.

²⁰ Sethe, *Die altaegyptischen Pyramidentexte* I, vii-viii.

²¹ Breasted, *The Oriental Institute of the University of Chicago. A Beginning and a Program*, 78.

²² Breasted, *A Beginning and a Program*, 161.

²³ Breasted, *A Beginning and a Program*, 162. To be clear, A. de Buck was hired in 1925 specifically to replace L. Bull as the assistant of A. H. Gardiner.

²⁴ T. G. H. James, *A Short History of Ancient Egypt* (Baltimore 1998), 59 and 69.

²⁵ A. J. Spencer, *Death in Ancient Egypt* (New York 1982), 141.

²⁶ Breasted, *A Beginning and a Program*, 152.

²⁷ cf H. M. Hays and W. Schenck, ‘Intersection of Ritual Space and Ritual Representation. Pyramid Texts in Eighteenth Dynasty Theban Tombs’, in P. F. Dorman and B. M. Bryan (eds), *Sacred Space and Sacred Function in Ancient Thebes* (SAOC 61; Chicago 2007), 105 with n. 91. The terms also conceal the fact that texts of several genres come under their overlapping umbrellas, as observed by L. Gestermann, *Die Überlieferung ausgewählter Texte altägyptischer Totenliteratur* (‘Sargtexte’) in spätzeitlichen Grabanlagen. I (ÄgAbh 68; Wiesbaden 2005), 7 and 16 with nn 21, 55, and 56, and Willems, in Assmann and Roeder (eds), *Handbuch der altägyptischen Religion*.

²⁸ See already W. Barta, *Die Bedeutung der Pyramidentexte für den verstorbenen König* (MÄS 39; Munich 1981), 62; J. P. Allen, ‘Funerary Texts and Their Meaning’, in S. D’Auria, P. Lacovara and C. H. Roehrig (eds), *Mummies and Magic. The Funerary Arts of Ancient Egypt* (Boston 1988), 40. See Jürgens, *Grundlinien*, 85, where ‘keine Zäsur’ is seen between Pyramid Texts and Coffin Texts, but ‘Damit soll nicht gesagt sein, dass Pyramidentexte und Sargtexte schlicht „dasselbe“ sein’. See also Mathieu, in Bickel and Mathieu (eds), *D’un monde à l’autre*, 247–262

- ²⁹ See H. M. Hays, *The Typological Structure of the Pyramid Texts and Its Continuities with Middle Kingdom Mortuary Literature* (University of Chicago Ph.D. dissertation 2006), 105–107, 188–191, 227–228, and 290–293.
- ³⁰ H. M. Hays, ‘The Mutability of Tradition: The Old Kingdom Heritage and Middle Kingdom Significance of Coffin Texts Spell 343’, *JEOL* 40 (2007) 43–59.
- ³¹ cf J. Baines, ‘Modelling Sources, Processes, and Locations of Early Mortuary Texts’, in Bickel and Mathieu (eds), *D’un monde à l’autre*, 39; and Willems, in Assmann and Roeder (eds), *Handbuch der altägyptischen Religion*.
- ³² Mathieu, *Égypte Afrique et Orient* 12 (1999) 20.
- ³³ Mathieu, in Bickel and Mathieu (eds), *D’un monde à l’autre*, 257.
- ³⁴ N. Alexanian, ‘Tomb and Social Status. The Textual Evidence’, in M. Bárta (ed.), *The Old Kingdom Art and Archaeology* (Prague 2006), 8 with n. 24.
- ³⁵ cf R. Barthes, *Essais critiques* (Paris 1964), 156.
- ³⁶ cf P. Bourdieu, *Distinction. A Social Critique of the Judgement of Taste* (trans R. Nice; Cambridge 1998), 466. cf also the concept of ‘social marks’ in M. Baud, *Famille royale et pouvoir sous l’Ancien Empire égyptien* (BdE 126; Cairo 1999), 193–194.
- ³⁷ To be precise, these modern terms should make reference strictly to texts edited as such. Thus I define *Pyramid Texts* as ‘mortuary texts attested in the Old Kingdom and published as such’, and *Coffin Texts* as ‘mortuary texts attested in the Middle Kingdom and published in the eight volumes of the Oriental Institute’s Coffin Texts series’.
- ³⁸ Willems, in Assmann and Roeder (eds), *Handbuch der altägyptischen Religion*; Smith, in Dieleman and Wendrich (eds), *UCLA Encyclopedia of Egyptology*, 9; Hays, *Typological Structure*, 94–102; Baines, in Bickel and Mathieu (eds), *D’un monde à l’autre*, 21 with n. 29; Allen, in D’Auria, Lacovara and Roehrig (eds), *Mummies and Magic*, 39; H. Willems, *Chests of Life. A Study of the Typology and Conceptual Development of Middle Kingdom Standard Class Coffins* (MVEOL 25; Leiden 1988), 203; W. Barta, *Die altägyptische Opferliste von der Frühzeit bis zur griechisch-römischen Epoche* (MÄS 3; Berlin 1963), 67; A. M. Blackman and M. R. Apted, *The Rock Tombs of Meir V* (ASE 28; London 1953), 43; S. Hassan, *Excavations at Giza VII*, part 2 (Cairo 1948), 46, 77, and 157; H. Junker, *Giza II* (Vienna 1934), 76 and 80–82 (and note that the distinction he attempts to make between a royal and non-royal list through reference to regalia presentations can be understood quite otherwise). See also the libation stand bearing PT 32 discussed in J. Leclant, ‘Un support d’autel à libations du temple haut de Pépi Ier’, in S. Israelit-Groll (ed.), *Studies in Egyptology Presented to Miriam Lichtheim II* (Jerusalem 1990), 653–655,

for which reference I am deeply grateful to A. J. Morales.

³⁹ On the concept of artificial voice, see J. Assmann, *Images et rites de la mort dans l'Égypte ancienne l'apport des liturgies funéraires* (Paris 2000), 32; and J. Assmann, *Tod und Jenseits im Alten Ägypten* (Munich 2001), 335.

⁴⁰ See J. Leclant and A. Labrousse, 'Découvertes récentes de la Mission archéologique française à Saqqâra (campagnes 2001–2005)', *CRAIBL* (2006) 108 [Fig. 4](#).

⁴¹ See PT 217 on *face A* of MafS Papyrus T 2147, with a possible date in the area of the sixth through eleventh dynasties: C. Berger-el Naggar, 'Textes des Pyramides sur papyrus dans les archives du temple funéraire de Pépy I^{er}', in S. Bickel, B. Mathieu (eds), *D'un monde à l'autre*, 85–89 with n. 13 and [Fig. 1](#). On mistakes in the Pyramid Texts showing that they had been transcribed from hieratic, and therefore from papyrus or leather master copies, see Sethe, *Die altaegyptischen Pyramidentexte IV* (Leipzig 1922), 125–127.

⁴² A refutation of the idea that some Pyramid Texts contain explicit statements concerning the exclusion of lower classes from the afterlife may be found in O. I. Pavlova, 'Recht in the Pyramid Texts: Theological Idea or Political Reality', in J. Assmann and E. Blumenthal (eds), *Literatur und Politik im pharaonischen und ptolemäischen Ägypten. Vorträge der Tagung zum Gedenken an Georges Posener 5.–10. September 1996 in Leipzig* (BdE 127; Cairo 1999), 95, 101, and 104.

⁴³ PT 534 §1277b; PT 599 §1649c; PT 600 §1653b–c; PT 601 §1661c.

⁴⁴ E. F. Wente, 'Mysticism in Pharaonic Egypt?', *JNES* 41 (1982), 176 n. 118. See also Smith, in Dieleman and Wendrich (eds), *UCLA Encyclopedia of Egyptology*, 7; C. Eyre, *The Cannibal Hymn. A Cultural and Literary Study* (Liverpool 2002), 66; and L. Kákosy, 'The Pyramid Texts and Society in the Old Kingdom', *Annales Universitatis Scientiarum Budapestinensis de Rolando Eotvos Nominatae. Section Historica* 4 (1962), 4–5 and 9–10.

⁴⁵ See G. Agamben, *Homo Sacer. Sovereign Power and Bare Life* (Stanford 1998), 15–29.

⁴⁶ See also PT 571 §1468c–1469a and PT 726 §2253b–d.

⁴⁷ Aside from the *wsir* NN formula, see the explicit identifications of the deceased as this god at PT 258 §308a; PT 259 §312a; PT 437 §793b; PT 468 §895c–d; PT 493 §1059d–e; PT 535 §1282b; PT 600 §1657a; PT 624 §1761d; PT 650 §1833a and §1833c; PT 684 §2054; PT 687 §2076c; and PT 690 §2097a and §2103c–d. As these passages are not susceptible to a reinterpretation of ambiguous grammatical syntax, they show that the relationship between the deceased and the god really was one of identity ('is' rather than 'of', *pace* M. Smith, 'Osiris NN or Osiris of NN?', in B. Backes, I. Munro and S. Stöhr (eds), *Totenbuch-Forschungen: Gesammelte*

Beiträge des 2. Internationalen Totenbuch-Symposiums, Bonn, 25. bis 29. September 2005 (Wiesbaden 2006), 325 – 337). In respect to being Osiris, see also CT 42 I 178d; CT 227 III passim; CT 237 III 309b–c; CT 269 IV 7k; CT 507 VI 92b; CT 577 VI 193c; CT 599 VI 215g–h; CT 666 VI 293d; CT 828 VII 28v, q. CT 227 is most notable in this regard, since the title given to it in one of its exemplars is *hpr-w* ‘Becoming Osiris’. The deceased aspired to become Osiris in the Old and Middle Kingdoms.

⁴⁸ On this term, see H. M. Hays, ‘Old Kingdom Sacerdotal Texts’, *JEOL* 41 (2009) 49.

⁴⁹ Nordh, *Aspects*, 169.

⁵⁰ E. Brovarski, ‘The Late Old Kingdom at South Saqqara’, in L. Pantalacci and C. Berger-el-Naggar (eds), *Des Néferkarê aux Montouhotep. Travaux archéologiques en cours sur la fin de la VI^e dynastie et la Première Période Intermédiaire* (Lyon 2005), 63.

⁵¹ K. A. Daoud, *Corpus of Inscriptions of the Herakleopolitan Period from the Memphite Necropolis. Translation, Commentary and Analyses* (BAR S1459; Oxford 2005), 117.

⁵² See above n. 38.

⁵³ B. Mathieu, ‘Mais qui est donc Osiris? Ou la politique sous le linceul de la religion (Enquêtes dans les Textes des Pyramides, 3)’, *ENIM* 3 (2010) 77 with nn 3–4, where it is noted that a further instance of the name may be dated even earlier. On the question of the date of Osiris, add to Mathieu’s references: A. Bolshakov, ‘Princess *hm-t-r(w)*: The First Mention of Osiris?’, *CdE* 67 (1992) 203–210; id, ‘Osiris in the Fourth Dynasty Again? The False Door of *Intj*, MFA 31.781’, in H. Györy (ed.), *Mélanges offerts à Edith Varga: ‘Le lotus qui sort de terre’* (Budapest 2001), 65–80.

⁵⁴ BM EA 682, for which see T. G. H. James, *Hieroglyphic Texts from Egyptian Stelae etc. Part I Second Edition* (London 1961), 17 and pl. 17, P. F. Dorman, ‘The Biographical Inscription of Ptahshepses from Saqqara: A Newly Identified Fragment’, *JEA* 88 (2002), 95–110, and N. C. Strudwick, *Texts from the Pyramid Age* (Writings of the Ancient World 16; Atlanta and Leiden 2005), 303–305.

⁵⁵ W. Barta, *Aufbau und Bedeutung der altägyptischen Opferformel* (ÄF 24; Gluckstadt 1968), 8 and 225 (under ‘*Jnpw*’), and T. DuQuesne, *The Jackal Divinities of Egypt I. From the Archaic Period to Dynasty X* (London 2005), 144 and 384–385. One of the earliest attestations is from the tomb of Metjen, Berl. Inschr. 1105 L (*Aegyptische Inschriften aus den Königlichen Museen zu Berlin* (Leipzig 1913), 86, or any of the more recent publications listed in Strudwick, *Texts from the Pyramid Age*, 451 (#108)). Other secure fourth dynasty attestations include D. Dunham and W. K. Simpson, *The Mastaba of Queen Mersyankh III. G 7530–7540* (Giza Mastabas 1; Boston 1974), e.g. Figs 3b and 7; W. K. Simpson, *The Mastabas of Kawab, Khafkhufu I and II* (Giza Mastabas 3; Boston 1978) Figs 24–25; H. Junker, *Giza I* (Vienna 1929), fig. 57, 1.

⁵⁶ cf J. G. Griffiths, *The Origins of Osiris and His Cult* (Leiden 1980), 113, and Barta, *Aufbau und Bedeutung der altägyptischen Opferformel*, 15. Other gods introduced to the divine formula in the fifth dynasty include the Western Desert (LD II 44b and LD II 81), Maat (cited in B. Begelsbacher-Fischer, *Untersuchungen zur Götterwelt des Alten Reiches im Spiegel der Privatgräber der IV. und V. Dynastie* (Freiburg 1981), 102); Geb (A. Mariette, *Les mastabas de l'ancien empire* (Paris 1889), 186); as well as Wadyt, Ptah, Montu, Neith, Re and Hathor, for references to which see DuQuesne, *Jackal Divinities of Egypt* I, 145 with n. 19.

⁵⁷ For example Mariette, *Mastabas*, 149 and 259; H. T. Mohr, *The Mastaba of Hetep-Her-Akhti* (MVEOL 5; Leiden 1943), 33; M. A. Murray, *Saqqara Mastabas. Part I* (ERA 10; London 1905), pls 7 and 20; H. Junker, *Gîza VII*, (Vienna 1944), fig. 85; LD II 44b, LD II 65, LD II 75, LD II 89; BM 1275, for which see James, *Hieroglyphic Texts Part I*, 20 and pl. 21; CG 1332, CG 1424, and CG 1506, for which see L. Borchardt, *Denkmäler des Alten Reiches (ausser den Statuen) im Museum von Kairo Nr. 1295–1808*. Teil I (Berlin 1937), 16, 106, 211 respectively, and CG 1563, for which see L. Borchardt, *Denkmäler des Alten Reiches (ausser den Statuen) im Museum von Kairo Nr. 1295–1808*. Teil II (Cairo 1964), 26.

⁵⁸ For example Mariette, *Mastabas*, 149 and 259; BM 682; LD II 81.

⁵⁹ W. M. F. Petrie, *Abydos Part II* (EEF 24; London 1903), pl. 12 (#278); G. Dreyer, 'Ein Siegel der frühzeitlichen Königsnekropole von Abydos', *MDAIK* 43 (1987), 36 fig. 3 and pls 4 and 5; see further DuQuesne, *Jackal Divinities of Egypt* I, 28 431.

⁶⁰ See DuQuesne, *Jackal Divinities of Egypt* I, 384–385 4492. However, to my knowledge the epithet *nb ibdw* is never applied immediately to Anubis; that role is particular to Khentimentiu and Osiris; see below, n. 67.

⁶¹ For example LD II 48, lower band, and LD II 101a; see further citations in DuQuesne, *Jackal Divinities of Egypt* I, 162–163 4177.

⁶² See the citations above, n. 58; see further citations in DuQuesne, *Jackal Divinities of Egypt* I, 163 4178.

⁶³ In the tomb of Ptahhotep at Saqqara (LS31); see the first citation in *ibid*, 164–165 §179, and further the sixth dynasty texts Urk I 98, 9 (further Strudwick, *Texts from the Pyramid Age*, 459 (#256)), Urk I 253, 14 (further *ibid*, 458 (#247)), and CG 1574 (where the epithet has the anthropomorphic 'Osirian' determinative), for which see Borchardt, *Denkmäler des Alten Reiches* II, 54.

⁶⁴ As in W. M. F. Petrie, *Tombs of the Courtiers and Oxyrhynchos* (BSA 37; London 1925), pl. 22, 1; K. Sethe, *Aegyptische Lesestücke zum Gebrauch im akademischen Unterricht* (Leipzig 1928), 69, 4; 70, 17; 71, 2–5. On the god, see further R. Grieshammer, 'Chontamenti', *LÄ* I, 964–965.

⁶⁵ See citations of their immediate juxtaposition in DuQuesne, *Jackal Divinities of Egypt* I, 166 4182, and the discussion in *ibid*, 389 4503.

⁶⁶ Anubis with the epithet *nb imn.t (i)t* cited in DuQuesne, *Jackal Divinities of Egypt* I, 167 4183; Osiris with the same in S. Hassan, *Excavations at Gîza* III (Cairo 1941), 4; Mariette, *Mastabas*, 368; Khentimentiu with the same, *ibid*, 230.

⁶⁷ For *wsir nb ibdw*, see S. Hassan, *Excavations at Gîza* VI part 3 (Cairo 1950), 209 Fig. 207, and see the citation in Begelsbacher-Fischer, *Untersuchungen zur Götterwelt*, 125. For *hnti-imn-tiw nb ibdw*, see the citations in DuQuesne, *Jackal Divinities of Egypt* I, 163 4178; this combination continues to be used in the Middle Kingdom mortuary literature in CT 404 V 194h and CT 405 V 207i.

⁶⁸ This epithet of Anubis is attributed to Osiris in CG 1424, reference to which is made above, n. 57.

⁶⁹ For Osiris textually identified as a jackal, see PT 690 §2108a and Griffiths, *Origins of Osiris*, 143–144, for his treatment of this statement and two others which less strongly indicate a theriomorphic form; the crucial value of this statement is observed also in DuQuesne, *Jackal Divinities of Egypt* I, 346. On the deceased in the form of a jackal generally (though not with regard to the passage just cited), see H. Roeder, *Mit dem Auge sehen. Studien zur Semantik der Herrschaft in den Toten- und Kulttexten* (SAGA 16; Heidelberg 1996), 75–78.

⁷⁰ J. Wegner, *The Mortuary Complex of Senwosret III: A Study of Middle Kingdom State Activity and the Cult of Osiris at Abydos* (University of Pennsylvania Ph.D. dissertation 1996), 43–44, shows that Khentimentiu is attested with “‘Osiris’ determinative consisting of a mummified Upper Egyptian king wearing the White Crown and holding the crook and flail’ in sixth dynasty non-royal texts. It is possible that this iconography was originally appropriate to Khentimentiu rather than Osiris; see the references in DuQuesne, *Jackal Divinities of Egypt* I, 168 n. 234.

⁷¹ PT 357 §592b (MN).

⁷² *hnti-imn-tiw* is written with *mn*-gameboard sign in PT 305 §474c (W), PT 357 §595b (TPM), PT 371 §650c (TP), PT 438 §811a, d (P), PT 441 §818b (P), PT 667 §1936f (Nt).

⁷³ PT 81 §57d, PT 224 §220c, PT 225 §224b, PT 419 §745a, PT 650 §1833c, and CT 936 VII 138r.

⁷⁴ PT 601 §1666a, PT 677 §2021a.

⁷⁵ Compare the later incorporation of these epithets in the Middle Kingdom mortuary literature in CT 605 VI 218c (*wsir nb imn.t*) and CT 434 V 285e (*wsir nb idw*).

⁷⁶ The word *ib* is already a designation of deceased persons on Archaic Period seals; see P. Kaplony, *Die Inschriften der ägyptischen Frühzeit* I (ÄgAbh 8; Wiesbaden 1963), 37.

⁷⁷ See G. Englund, *Akh, une notion religieuse dans l'Égypte pharaonique* (Boreas 11; Uppsala 1978), 51–52.

⁷⁸ PT 217 §152d; PT 264 §350c; PT 357 §585a; PT 364 §621b; PT 368 §636c; PT 487 §1046b; PT 532 §1261b; PT 664B §1887b.

⁷⁹ E. Edel, *Untersuchungen zur Phraseologie der ägyptischen Inschriften des Alten Reiches* (MDAIK 13; Berlin 1944), 30 (§ 5, 24). The exceptions are Bebi and Kaiherptah, presented below. The unusual location of Kaiherptah's statements is remarked upon by H. Junker, *Giza VIII* (Vienna 1947), 119, and his evaluation is applicable to Bebi also: 'Die Anbringung des Textes in der Sargkammer ist sehr befremdlich und kann wohl nur auf eine Gedankenlosigkeit zurückgeführt werden. Er gehört zu den Anreden an die Besucher des Grabes ... und sollte also von diesen gelesen werden.... Keineswegs aber gehören solche Texte in die unzugänglichen unterirdischen Räume, da sie dort ihren Zweck ganz verfehlten; auf Grabräuber wollte man gewiß keinen Eindruck machen'.

⁸⁰ On these statements, see Edel, *Untersuchungen zur Phraseologie*, 25; H. Junker, *Pyramidenzeit. Das Wesen der altägyptischen Religion* (Zürich 1949), 92; Englund, *Akh*, 128; E. Edel, 'Inscription des Jzj aus Saqqara', *ZÄS* 106 (1979) 113; R. J. Demarée, *The ^{ib} iqr n R'-stelae: On Ancestor Worship in Ancient Egypt* (Leiden 1983), 193 and 210; Baines, *JARCE* 26 (1990) 11–12; Silverman, in O'Connor and Silverman (eds), *Ancient Egyptian Kingship*, 81; Nordh, *Aspects*, 171; N. Kloth, *Die (auto-)biographischen Inschriften des ägyptischen Alten Reiches: Untersuchungen zu Phraseologie und Entwicklung* (SAK Beiheft 8; Hamburg 2002), 116–119; Smith, in Dieleman and Wendrich (eds), *UCLA Encyclopedia of Egyptology*, 3. For similar examples, see E. Doret, *The Narrative Verbal System of Old and Middle Egyptian* (Geneva 1986), 102–103 with nn 1294 and 1300.

⁸¹ Edel, *Untersuchungen zur Phraseologie*, 66–67.

⁸² D. P. Silverman, 'The Threat-Formula and Biographical Text in the Tomb of Hezi at Saqqara', *JARCE* 37 (2000), 5, [Fig. 4b](#).

⁸³ K. Myśliwiec et al., *The Tomb of Merefnebef* (Saqqara I; Warsaw 2004) 73–74 and pl. 33.

⁸⁴ Urk I 218, 4–6.

⁸⁵ Norman de Garis Davies, *The Rock Tombs of Deir el Gebrawi I* (ASE 11; London 1902), pl. 23. For the improved reading of the text, see Edel, *Untersuchungen zur Phraseologie*, 23, and correct the reading and translation of N. Kanawati, *Deir el-Gebrawi II. The Southern Cliff* (ACER 25; Oxford 2007), 54 and pl. 54 accordingly.

⁸⁶ E. Edel, *Hieroglyphische Inschriften des Alten Reiches* (Opladen 1981), [Fig. 4](#).

⁸⁷ W. K. Simpson, *Mastabas of the Western Cemetery: Part I* (Giza Mastabas 4; Boston 1980), Fig. 15.

⁸⁸ H. Frankfort, 'The Cemeteries of Abydos: Work of the Season 1925–26', *JEA* 14 (1928) pl. 20.3.

- ⁸⁹ J. Capart, *Chambre funéraire de la Sixième Dynastie aux Musées Royaux du Cinquantenaire* (Brussels 1906), pl. 5.
- ⁹⁰ S. Hassan, *Excavations at Giza II* (Cairo 1936), Fig. 231. According to Edel, *Untersuchungen zur Phraseologie*, 26, the instrumental *ny* is omitted from the formula.
- ⁹¹ Junker, *Giza VIII*, Fig. 56. On the significance of this statement, see further T. DuQuesne, “Effective in Heaven and on Earth.” Interpreting Egyptian Religious Practice for Both Worlds’, in J. Assmann and M. Bommas (eds), *Ägyptische Mysterien?* (Munich 2002), 38.
- ⁹² A. Badawy, *The Tomb of Nyhetep-Ptah at Giza and the Tomb of ‘Ankhn’ahor at Saqqara* (Berkeley 1978), 7, Fig. 13, and pl. 13.
- ⁹³ Urk I 202, 15–18, or any of the more recent publications of this monument listed in Strudwick, *Texts from the Pyramid Age*, 455 (#196).
- ⁹⁴ See Edel, *Untersuchungen zur Phraseologie*, 59–61, 66–67, and The Sakkarah Expedition, *The Mastaba of Mereruka*. Part II (Chicago 1938), pl. 213.
- ⁹⁵ Myśliwiec et al., *The Tomb of Merefnebef*, 72–73 and pl. 33.
- ⁹⁶ This statement is an interpolation (loc. cit., n. 38).
- ⁹⁷ Frankfort, *JEA* 14 (1928) pl. 20.3.
- ⁹⁸ cf Smith, in Dieleman and Wendrich (eds), *UCLA Encyclopedia of Egyptology*, 7.
- ⁹⁹ Jürgens, *Grundlinien*, 86; Silverman, in O’Connor and Silverman (eds), *Ancient Egyptian Kingship*, 81–82; Nordh, *Aspects*, 171; and Mathieu, in Bickel and Mathieu (eds), *D’un monde à l’autre*, 257.
- ¹⁰⁰ L. Habachi, *Sixteen Studies on Lower Nubia* (Cairo 1981), 21 Fig. 5.
- ¹⁰¹ Mathieu, in Bickel and Mathieu (eds), *D’un monde à l’autre*, 257.
- ¹⁰² Similarly PT 483, PT 610, PT 666, and PT 734.
- ¹⁰³ H. M. Hays, ‘Between Identity and Agency in Ancient Egyptian Ritual’, in R. Nyord and A. Kyølby (eds), *Being in Ancient Egypt: Thoughts on Agency, Materiality and Cognition* (Oxford 2009), 26–30.
- ¹⁰⁴ For the concept of *sakramentale Ausdeutung*, see J. Assmann, ‘Die Verborgenheit des Mythos in Ägypten’, *GM* 25 (1977) 15–25, id., ‘Semiosis and Interpretation in Ancient Egyptian Ritual’, in S. Biderman and B.-A. Scharfstein (eds), *Interpretation in Religion* (Leiden 1992), 87–89, and 105–106, and id., ‘Altägyptische Kultkommentare’, in J. Assmann and B. Gladigow (eds), *Text und Kommentar. Archäologie der literarischen Kommunikation IV* (Munich 1995), 97–99.
- ¹⁰⁵ The following discussion is based on my presentation ‘Representations of Mortuary Ritual from the Old to the New Kingdoms’, given at the 53rd Annual Meeting of the American Research Center in Egypt, held at the Johns Hopkins University in 2002.
- ¹⁰⁶ Thus already in the Old Kingdom the hieroglyph of the jackal-god alone could represent this title; see the discussion of R. Ritner, *The Mechanics of*

Ancient Egyptian Magical Practice (SAOC 54; Chicago 1993), 231–232. On the association of Anubis with this title, see the references cited in DuQuesne, in Assmann and Bommas (eds), *Ägyptische Mysterien?*, 39 n. 25.

¹⁰⁷ L. Coulon, ‘Rhétorique et stratégies du discours dans les formules funéraires: les innovations des Textes des Sarcophages’, in S. Bickel, B. Mathieu (eds), *D’un monde à l’autre*, 121–122; similarly Willems, in Assmann and Roeder (eds), *Handbuch der altägyptischen Religion*.

¹⁰⁸ K. Sethe, ‘Die Totenliteratur der Alten Ägypter: Die Geschichte einer Sitte’, *Sitzungsberichten der preussischen Akademie der Wissenschaften Phil.-Hist. Klasse 1931 XVIII* (Berlin 1931), 522–523; see also 529. Even so, he continued to maintain that the adoption of the Pyramid Texts by non-royal persons was a symptom of the collapse of the state at the end of the Old Kingdom, as with their assumption of the form of Osiris; *ibid*, 527–528.

¹⁰⁹ cf Hays, *JEOL* 41 (2009) 53–54, and Eyre, *The Cannibal Hymn*, 64–69.

¹¹⁰ Texts in the tomb of Ihy (Sq18X), for which see C. M. Firth and B. Gunn, *Teti Pyramid Cemeteries I* (Cairo 1926) 287; for further reference to this tomb, see Willems, *Chests*, 32.

¹¹¹ cf Barta, *Die altägyptische Opferliste*, 7.

¹¹² On this scene, see further G. Lapp, *Die Opferformel des Alten Reiches* (Mainz am Rhein 1986), 186.

¹¹³ E. Naville, *The Temple of Deir el Bahri*. Part IV (EEF 19; London 1900), pl. 110.

¹¹⁴ Norman de Garis Davies, *The Tomb of Puyemrê at Thebes II* (RPTMS 3; New York 1923), pls 49–50.

¹¹⁵ P. E. Newberry, *Beni Hasan*. Part I (ASE 5; London 1893), pl. 17. On Middle and New Kingdom scenes of mortuary service, see J. Spiegel, ‘Die Entwicklung der Opferszenen in den Thebanischen Gräbern’, *MDAIK* 14 (1956) 190–207.

¹¹⁶ Di. Arnold, *The Pyramid of Senwosret I* (PMMA 22; New York 1988), pl. 56.

¹¹⁷ See the references given above in n. 38.

¹¹⁸ See Lapp, *Opferformel*, 147 Fig. 26 (< LD II pl. 35), and/or S. Hassan, *Excavations at Giza*. IV. 1932–1933 (Cairo 1943), 176 fig. 122. The correct date of Debeheni’s tomb is ‘end of fourth dynasty to early fifth dynasty’; the reasons are given in Barta, *Die altägyptische Opferliste*, 47. Kloth, *Die (auto-)biographischen Inschriften*, 38–39, attempted to push Debeheni’s date to the middle of the fifth dynasty in saying, ‘Die Inschrift berichtet von der Errichtung des Grabes durch Mykerinos, und folglich wurde auch der (auto-)biographische Text selbst an das Ende der 4. Dyn. datiert. Mehrere Argumente sprechen jedoch für eine Datierung nicht vor die Mitte der 5. Dyn.’. But to be precise only one of the points thereafter advanced by her

can speak for such a date. And it does so weakly, since it is merely involves the comparative dating of a type of decoration found in Debeheni's tomb. Observing that scenes from the 'Butic burial' occur in Debeheni, Kloth asserts that they are not attested before the second half of the fifth dynasty. But that is only true if Debeheni's decoration was not executed before this time. In other words, the dating of the advent of a type of decoration is dependent on the date of the tombs bearing it, not the reverse.

¹¹⁹ See above, n. 38.

¹²⁰ For the date, see Simpson, *The Mastabas of Kawab, Khafkhufu I and II*, 9 with n. 2.

¹²¹ For this object, see A. H. Gardiner, 'An Archaic Funerary Stele', *JEA* 4 (1917), 256–260. According to the personal communication of Richard Macfarlane, Collections Manager, Bankfield Museum, on 13 April 2010, it is now lost. To its bibliography in PM VIII part 3, 1–2 (803-002-400), add H. G. Fischer, *Egyptian Studies III. Varia Nova* (New York 1996), 112–113; W. A. Ward, 'Notes on Egyptian Group-Writing', *JNES* 16 (1957) 198; W. Helck, 'Zu den theophoren Eigennamen des Alten Reiches', *ZÄS* 79 (1954) 27 n. 3; Reisner, in *Studies Presented to F. Ll. Griffith*, 328; A. Scharff, 'Eine archaische Grabplatte des Berliner Museums und die Entwicklung der Grabplatten im frühen Alten Reich', in *Studies Presented to F. Ll. Griffith*, 355; Junker, *Giza I*, 27; and A. Rusch, 'Die Entwicklung der Grabsteinformen im Alten Reich', *ZÄS* 58 (1923) 104. Gardiner, *JEA* 4 (1917) dates the Bankfield Stele to the second dynasty and is almost universally followed in this regard. Exceptionally the stele is dated to the second or early third dynasty, as by W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom* (New York 1978), 139 and 142–143; and Rusch, *ZÄS* 58 (1923) 104 n. 7, or even more exceptionally to the third or early fourth dynasty by G. A. Reisner, 'The Position of Early Grave Stelae', in *Studies Presented to F. Ll. Griffith* (London 1932), 328. The drawing of Fig. 5 is my tracing of Gardiner's photograph, collated against a more recent photo kindly provided by Mr Macfarlane, and collated against drawings of Fischer, *Egyptian Studies III*, 113 Fig. 2.a and S. Hassan, *Excavations at Giza V* (Cairo 1944), 87 Fig. 13. Fischer's drawing certainly and Hassan's probably were made from Gardiner's photo without reference to the original.

¹²² According to Kaplony, *Inschriften der ägyptischen Frühzeit I*, 602, the owner's name is *hww-hbtk*, but the traces of the attacked bird's head better suit a *rht*-bird rather than an *sh*. On the other hand, he offers parallels to suggest that the name of the mother and not the owner is *mrk(x)-nt-ptb* (or *-hpt* as the case may be).

¹²³ E. C. Köhler, 'Ursprung einer langen Tradition. Grab und Totenkult in der Frühzeit', in Guksch, Hofmann and Bommas (eds), *Grab und Totenkult*, 16.

¹²⁴ H. M. Hays, 'Unreading the Pyramids', *BIFAO* 109 (2009), 197.

A new specific tomb type in Abusir?

Jaromír Krejčí

The Czech Institute of Egyptology has – in addition to its excavation of such important monuments as the unfinished pyramid of Neferefre – also excavated the minor tombs in the Abusir royal necropolis.¹ Among them, not only pyramids of queens have been excavated, but also two unusual tomb complexes dated most probably to the reign of Niuserre. Non-standard architecture of these tombs (very probably belonging to the members of the royal family) seems to indicate that the time of this king's rule was, in addition to anything else, important due to major innovations in tomb architecture.² These two tomb complexes – Lepsius no. 25 and the mastaba of prince Werkaure – were built on the southern edge of the royal pyramid necropolis of Abusir. In this area, the pyramid complex of Queen Khentkaues II³ and the pyramid complex Lepsius no. 24⁴ were also excavated.

Tomb complex Lepsius no. 25

After our two first archaeological seasons, the tomb complex Lepsius no. 25 revealed itself to be not one tomb, but two tombs joined together (eastern: L25/1; western: L25/2).⁵ This twin tomb complex is in many respects, including its shape and position, a very atypical structure. It is composed of two tombs, with mastaba-like superstructures. These tombs were constructed side-by-side and orientated along a north-south axis (Fig. 1). Despite the appearance of the superstructures, the construction pit and burial apartments in both tombs were influenced by the layout of the substructure of contemporary pyramids. The core masonry was of meagre quality, a kind of caisson method was used for the construction and, moreover, the cores of both tombs were laid on layers of sand (Fig. 2) As a matter of course, these sand layers were insufficient as a base for the masonry of both tombs. This fact also contributed to the very poor state of preservation of this tomb

complex after several attacks by tomb- and stone-robbers, and the addition of secondary burials within the complex area.

Each of these tombs was built within a large construction pit, and both their descending corridors open to the north. The inclination of the descending corridors in both tombs varied between 25° and 25.5° . This design is the same as that used in the pyramids of queens.⁶ In the case of the eastern tomb (L25/1), the entrance of the descending corridor is located in the middle of its northern wall, and it makes its way through three horizontal passages at its lower end. These passages change their direction twice, each time by 90° , in order to give access to a north–south orientated burial chamber. The chamber of L25/1 is almost totally destroyed (Fig. 3). The burial apartment of L25/2 (which was also accessible through a descending corridor with its opening in the axis of the northern wall) is even more destroyed than its neighbour, so that only its general outlines can be reconstructed.

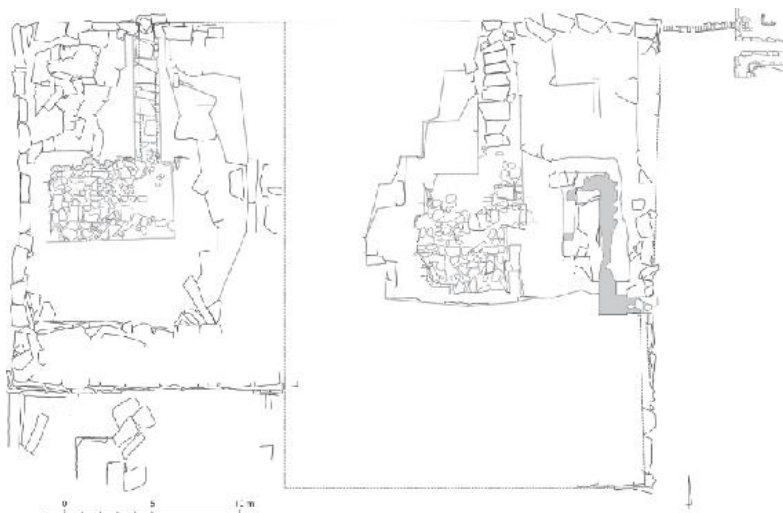


Fig. 1: Archaeological plan of the tomb complex Lepsius no. 25



Fig. 2: Core masonry of the eastern tomb lying on a layer of sand

The façades of both tombs were never dressed and the work on the exterior was apparently left unfinished (Fig. 4). This is in contrast to the situation with other neighbouring tombs of the members of the royal family in the southern part of the Abusir royal necropolis (the mastabas of Werkaure, Nebtyemneferes and Nakhtsare, as well as both queens' pyramids).

The cult room, located in the eastern part of the superstructure of the eastern tomb, remains a very remarkable space, despite extensive damage.⁷ The chapel probably had an unusual *en chicane*⁸ layout and we can suppose that the cult place was located in its western part (Fig. 5). In this case, the false door would have been placed in the chapel's westernmost part. Another possibility is that the false door was located in a deep niche in the western wall of the better-preserved part of the chapel (Fig. 6). No fragment of the

relief decoration or false door was found during the archaeological excavation of the entire monument, so we can make no comment on these aspects.



Fig. 3: Burial chamber in L25/1



Fig. 4: Southern wall of L25/2 with an undressed façade

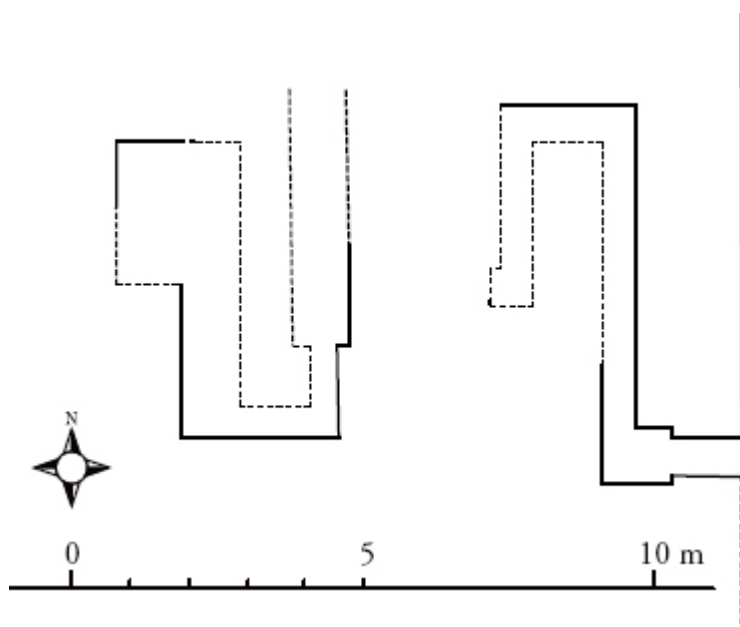


Fig. 5: Reconstructed layout of the chapel in L25/1 in en chicane form (right) and the layout of the area around the burial chamber (left)

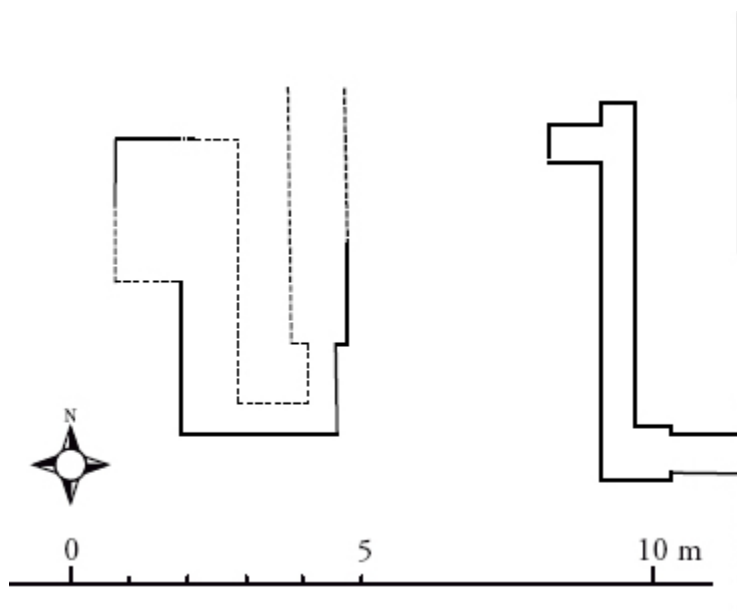


Fig. 6: Reconstructed layout of the chapel in L25/1 with a deep niche (right) and the layout of the area around the burial chamber (left)



Fig. 7: Overall view of the mastaba of Werkaure



Fig. 8: Horizontal part of the access corridor to the burial chamber

It is not possible to identify the owners of either tomb directly, but the discovery of a mason's mark mentioning the name of a princess Hanebu is an important clue. In addition, this mason's mark may very probably be recognised in an abbreviated form of a *labrys* (double-headed axe) not only in Lepsius no. 25,⁹ but also in the complex of Khentkaues II (in the area of the queen's cult pyramid).¹⁰ It is a striking coincidence that this same *labrys* sign was found in these two adjacent monuments. As that particular part of Khentkaues' pyramid complex was very probably built during the later part of Niuserre's reign,¹¹ this circumstance, together with other facts¹² allows us

to date the construction of L25 to the time of this ruler. The occurrence of this princess' name corresponds well with fragments of two female mummified corpses found in both tombs – probably two related women – possibly either a princess and her daughter, or, two princesses.¹³ On the other hand, the situation of the tomb complex's dating is not facilitated by several blocks with graffiti mentioning the name of Userkaf's pyramid complex. These blocks represent small sized fragments of local limestone and they come only from the filling of the core masonry. It is thus very probable that they represent builders' refuse and that they are likely to have been reused as some economy measure. We can use them only as *post quem* dating criterion. Due to the horizontal stratigraphy and finds of mud sealings with Niuserre's name, we can date the complex to the later part of this king's reign.¹⁴

The mastaba of Werkaure

The mastaba of prince Werkaure, formerly known as the pyramid Lepsius no. 23,¹⁵ built to the south-east of the pyramid complex of Khentkaues II, has been attacked by stone-robbers and destroyed to a high degree (Fig. 7). The archaeological excavation revealed that this mastaba also included a non-standard substructure. Despite the tomb's destruction we can document and reconstruct its original appearance, particularly in the case of its burial apartment. As was the case of the double-mastaba Lepsius no. 25, in Werkaure's tomb the core masonry had also in some of its parts a *caisson*-like character. Like the previous tombs, Werkaure's monument was also erected on insufficient foundations laid directly onto thick layers of sand.

The opening to the descending part of the access corridor was located in the axis of the mastaba's northern wall. The angle of this approximately 7 m long corridor was 26–26.5°. The first horizontal part of the access corridor was 6.21 m long. In its western wall, there were two openings at the time of its unearthing; however, both of them were made by stone- and tomb-robbers (Fig. 8). A doorway is located in the southern end of this horizontal passage. The doorway once gave access to another, east-west orientated part of the corridor. There was no door-leaf located in it. Unfortunately, the western part of the construction pit was largely destroyed. We can thus only estimate that the corridor was about 3.00 m long.



Fig. 9: Western part of the construction pit

The aforementioned east-west orientated part of the corridor – as probably was the case with the situation in Lepsius no. 25/1 – gave access to the burial chamber. Due to the dimensions of the construction pit, there is only one possibility for its layout: the chamber must have been orientated along the north-south axis (see [Fig. 9](#)).

Items were also found from the original burial equipment of the deceased prince. Beside pottery, there were copper model instruments, flint blades and so on. These items are comparable with the objects found in L25.

In addition to its construction pit, the eastern part of the mastaba's superstructure was also excavated. The entrance to the superstructure of the mastaba was apparently located in the area to the south of the axis in its eastern outer wall. There was an anteroom which, like the serdab, was connected to the south, with a long corridor to the north. This corridor gave access to a north-south orientated chapel. This room was quite narrow: it was 4.24 m long and only 1.00 m broad. Below the axis of the western wall, there was an offering table made of diorite ([Fig. 10](#)), built into a limestone masonry block. However, no piece of any false door, nor any fragment of relief decoration has been found. In the area of the serdab, though, a few fragments of wooden statues were excavated. This serdab was the only part of the roofing area of the tomb's superstructure which has been preserved.

Among the most important discoveries within the mastaba was a large collection of graffiti. These revealed the name of a supposed tomb owner: *s3 nswt smsw Wr-k3w-R^c*, the oldest son of the king, Werkaure. Nevertheless, there was also one mason's mark mentioning the name *Mn-k3w-hr*. There is a possibility that this may represent the name of fifth dynasty king, Menkauhor.¹⁶ Because of this discovery, we can tentatively

assign the tomb to the time of king Niuserre, or, even to that of Menkauhor.

To sum up the previous description of these minor tombs of the members of the royal family in Abusir, we can suggest the following general features of these tombs:

- A superstructure in the form of a mastaba
- Relatively large dimensions of the superstructure
- Insufficient foundation for the superstructures



Fig. 10: Diorite offering table built in the masonry of the offering chapel

- Meagre quality of the core masonry built by using caisson-like construction methods

- Use of construction techniques similar to those used in the neighbouring pyramids of queens, as well as in the monuments built directly for the kings (Neferefre, Niuserre)¹⁷
- Construction pit for the burial apartment in the same form as that in pyramids (in the shape of the letter 'T')
- Descending corridor from the axis of the north wall of the mastaba superstructure
- Similar inclination of the descending corridor to that of the neighbouring pyramids of queens
- Complicated layout of the burial apartment (the access corridor changes direction on several occasions as it moves towards its north-south orientated burial chamber)

For what reason were these tombs built using royal elements, and why was their internal structure so unlike the mastabas of other non-royal individuals? Certainly, an answer for the first question could have very probably been the royal origin of these tomb owners. For the second question, the answer is more complex.

We can already see a strange combination of a vast mastaba and descending corridor leading from the middle of the north side of the tomb at the end of the fourth dynasty.¹⁸ This is the example of the burial complex of king Shepseskaf.¹⁹ Is it only a hypothesis that the owners of the Abusir tombs discussed in this article were somehow influenced by this royal model? The similar combination of a mastaba and a descending corridor leading from the north is not such an extraordinary feature in other mastabas of the time, and we can point to other examples dated to the second half of the fifth and to the sixth dynasty. In Abusir, for example, there are other examples – as in the tombs of Ptahshepses Junior II²⁰ and Qar²¹ – but also in places such as Giza.²²

One of the reasons why the substructures in these tombs had a complex system of corridors might have been influenced by the unstable subsoil in that place in Abusir. Unfortunately, we do not know why in the burial chambers of those tombs (Lepsius no. 25 and Werkaure's mastaba) massive pillars, such as those used in the mastaba of Nebtyemneferes,²³ Ptahshepses Junior II,²⁴ Userkafankh,²⁵ the burials in the mastaba of Princesses,²⁶ and others were not used. Nevertheless, it is apparent that in the three Abusir tombs mentioned previously – in both tombs of the tomb complex Lepsius no. 25 as well as in Werkaure's mastaba – one of the reasons for the complicated ground plan was to place the burial chamber approximately on the axis of the false door.

At this point we have to point out differences in the layout of rooms in the superstructure of the three Abusir tombs. Whereas in Lepsius no. 25/1 we can see a cult room designed on an *en chicane* ground plan, which is so different in comparison with some other tombs in the Abusir necropolis, the cult rooms in Werkaure's tomb were patterned along the lines of the normal arrangement with an anteroom and a chapel with the false door in the

western wall.

Another anomaly in Lepsius no. 25 and Werkaure's tomb is the absence of relief decoration. Not even a trace of a false door that could be attributable to these tombs complexes was found. It means that either their chapels were not decorated, or the relief decoration was concentrated only on a very small scale. We could explain these omissions as the result of the large-scale destruction of the monument; however, we would expect to have unearthed at least some small fragments of such decoration or pieces of a false door, but none were found. It seems that these three complexes were built in a hurry²⁷ on layers of sand – that is, without proper foundations. The same situation – missing decoration – is, surprisingly, also the situation in the mortuary temple of the pyramid complex Lepsius no. 24. We can thus in this case theorise that either the temple was not decorated, or that its decoration was confined to a very small part – most likely in the area of the offering room, which is almost totally destroyed.²⁸ By contrast, in the neighbouring tomb complexes – of Khentkaues II, or in some of the tombs in Djedkare's cemetery – the relief decoration is present.²⁹ These monuments have been dated to only a slightly later period than complexes Lepsius no. 24 and 25, as well as the mastaba of Werkaure: therefore, we might surmise that the most important reason for omission of the relief decoration was either a lack of time or lack of resources.

Can we suggest any reasons why these few minor tombs from Abusir represented such a mixture of construction styles? In two cases out of three we have evidence that suggests that immediate members of the royal family were very probably buried in them. With some degree of caution, we can also suggest that these people were persons of some importance or persons ranked highly in the esteem of the king. Therefore, the mixture of building technologies, elements of the pyramid design and that of the mastaba might have been expressing the fact that, while they were *not* rulers themselves, they were highly esteemed members of the royal family.

It is possible that these three tombs (the two tombs in Lepsius no. 25 and Werkaure's tomb) do not represent a novel type of tomb; however, they do represent a local anomaly. In drawing the individual features of these tombs connected with the members of the royal family to the reader's attention, it is hoped that other comparisons might be noticed: only further investigation into this subject can bring us some answers for our questions.

¹ I would like to thank to Dr Vivienne Gae Callender who has not only discussed some problems concerning the article, but also she has corrected the English of the text.

² M. Bárta, 'Architectural Innovations in the Development of the Non-Royal Tomb during the Reign of Nyusera', in: P. Jánosi (ed.), *Structure and Significance: Thoughts on Ancient Egyptian Architecture* (DGÖAW 33; Vienna 2005), 105–125.

- ³ M. Verner, *Abusir III. The Pyramid Complex of Khentkaus* (Prague 2001).
- ⁴ J. Krejčí, in J. Krejčí, V. G. Callender, M. Verner et al., *Abusir XII, Minor Tombs I (The Mastabas of Nebtyemneferes and Nakhtsare, Pyramid Complex Lepsius no. 24 and Tomb Complex Lepsius no. 25)* (Prague 2008), 77–97.
- ⁵ Krejčí, in Krejčí et al., *Abusir XII*, 161–185.
- ⁶ P. Jánosi, *Die Pyramidenanlagen der Königinnen* (DGÖAW 13; Vienna 1996), 105, 111–112, see also *Tabelle B* on p. 184.
- ⁷ Krejčí, in Krejčí et al., *Abusir XII*, 164–170.
- ⁸ We can document the same feature in the small temple at the foot of the Maidum pyramid (W. M. F. Petrie, *Medum* (London 1892), 8–9, pl. IV; V. Maragioglio, C. Rinaldi, *L'architettura delle piramidi menfite, Parte III* (Rapallo 1964), 24, Tav. 6).
- ⁹ Verner, in Krejčí et al., *Abusir XII*, 218, 221, 223, 227; Krejčí, in Krejčí et al., *Abusir XII*, 65, figs 3.53a on pl. II and 3.53b.
- ¹⁰ Verner, *Abusir III*, 50–51.
- ¹¹ Verner, *Abusir III*, 40–41 and fig. 55b.
- ¹² Krejčí, in Krejčí et al., *Abusir XII*, 231.
- ¹³ Krejčí, in Krejčí et al., *Abusir XII*, 230–231; Černý, in Krejčí et al., *Minor Tombs I*, 255.
- ¹⁴ Krejčí, in Krejčí et al., *Abusir XII*, 232.
- ¹⁵ K. R. Lepsius (ed. E. Naville), *Denkmäler aus Aegypten und Aethiopien, Bd. 1, Text* (Leipzig 1897), 136–137. After the first day of our excavation, it was clear that the monument did not represent a pyramid but was a mastaba.
- ¹⁶ J. Krejčí, 'Several remarks on the Abusir pyramid necropolis: its minor tombs and their place in the chronology of the royal cemetery', in: H. Vymazalová and M. Bárta (eds), *Chronology and archaeology in ancient Egypt (the Third Millenium B.C.)* (Prague 2008), 124–136; J. Krejčí, 'Die Mastaba von Werkaure in Abusir', *Sokar* 19 (2009), 30–37.
- ¹⁷ M. Verner, in M. Verner, et al., *Abusir IX: The Pyramid Complex of Raneferef, I: The Archaeology* (Prague 2006), 5–12; Borchardt, *Das Grabdenkmal des Königs Ne-user-re* (WVDOG 7; Leipzig 1907), 23–25, 99–108.
- ¹⁸ The author of the present article does not mean descending staircase corridors opened in the northern walls of the tombs dated to Early Dynastic Period and the Third Dynasty.
- ¹⁹ G. Jéquier, *Le mastabat Faraoun* (Cairo 1928), 3–4; R. Stadelmann, *Die ägyptischen Pyramiden. Vom Ziegelbau zum Weltwunder* (Mainz am Rhein 1985), 152–153, We have, however, to underline here that, firstly, Shepseskaf's tomb is much larger than Lepsius no. 25, and, secondly, it does not have a spiralling interior. As is well known, there has been a lively discussion concerning the reasons why Shepseskaf left Giza for the remote

place in Southern Saqqara. This may have been influenced by his split with the religious oligarchy of these times. However, we also have to take into account practical reasons: there was a lack of free space on the Giza plateau, in combination with the unfinished state of Menkaure's pyramid complex and with all disorder connected with such grandiose constructional site. We can also suppose that in central Saqqara there was insufficient space for the construction of a new large complex. The examples of Userkaf, who apparently had to build his pyramid complex on a free, but narrow space between the Dry Moat and the enclosure wall of Netjerikhet's pyramid complex, and Unas, whose architects saw to the destruction of older buildings because of their lord's pyramid complex, seem to document such a situation quite clearly.

²⁰ M. Bárta, 'The Mastaba of Ptahshepses Junior II at Abusir', *Ä&L* 10 (2000), fig. 2.

²¹ M. Bárta, in M. Bárta et al., *Abusir XIII, Tomb complex of the vizier Qar, his sons Qar Junior and Senedjemib, and Iykai* (Prague 2009), fig. 5.2.2., 5.2.24

²² Reisner placed these tombs, dated mostly to the fifth dynasty, in his list of the shaft types as type 9b (G. A. Reisner, *A History of the Giza Necropolis* I (Cambridge, Mass. 1941), 101. Other parts of the burial apartments of these tombs were different from the examples found in the minor tombs in Abusir.

²³ Verner, in Krejčí et al., *Abusir* XII, 25–28.

²⁴ Bárta, *Ä&L* 10 (2000), fig. 2.

²⁵ Borchardt, *Ne-user-re*^f, Bl. 20.

²⁶ Borchardt, *Ne-user-re*^f, Bl. 25.

²⁷ Krejčí, in Krejčí et al., *Abusir* XII, 97.

²⁸ Krejčí, in Krejčí et al., *Abusir* XII, 88.

²⁹ M. Verner and V. G. Callender, *Abusir* VI. *Djedkare's family cemetery* (Prague 2002), *passim*.

An afterworld for Netjerykhet

Kamil O. Kuraszkiewicz

Despite over a century of exploration and study, many aspects of the funerary complex of Netjerykhet still remain a mystery, mainly due to almost complete lack of any textual or iconographic evidence in the complex itself. Nevertheless, it is commonly accepted that the complex was planned as a multi-layered setting for the eternal life for the king, and the numerous structures contained within the temenos were intended to enable the king to be reborn and to execute his rule eternally.

It seems, however, that the ritual significance of the complex extended also outside the temenos wall. In 1985 Nabil Swelim identified a large trench (which he named the ‘Dry Moat’) that is visible at several places outside the Step Pyramid complex.¹ Since that time the existence of this feature has been commonly accepted and our knowledge of it has been significantly (although still not sufficiently) enriched.²

It was proposed that the Dry Moat was an enormous trench of uniform width (about 40 m), enclosing an area of approximately 750 by 600 m. In plan, it resembles the hieroglyph  with two overlapping channels on the southern side (Fig. 1).

The outline of the northern and western channels of this trench is quite clearly visible on maps as well as on aerial and satellite photographs. The northern channel was never excavated and its depth and appearance are not known. The western channel was excavated at two places: a roughly 40 m long fragment of its western bank was cleared in its northern part (near the tomb of Ptahhotep³) and an approximately 20 m long one in its middle part (west of the tomb of Merefnebef, see below).

Also the eastern channel can be seen on some photographs, although not as clearly as the two mentioned before. However, no archaeological work has been carried out there which could verify the existence of this trench.

The case of the southern channels is much more complicated. As said before, it seems that south of the Step Pyramid complex there are two

overlapping channels of the Dry Moat. They are poorly visible on aerial photographs, but, on the other hand, here the longest sections of this structure have been excavated, recently analysed anew by Nabil Swelim, based mainly on an unpublished documentation of work done by Selim Hassan and Zaki Saad before and during World War II.⁴

In 1937–1938, between and under mastabas south-east of the Step Pyramid complex, Selim Hassan unearthed the easternmost known part of the inner southern channel. It consists of a sequence of three long and narrow compartments, interconnected by means of ‘doorways’ or ‘tunnels’ and possibly originally roofed. Two of the compartments are said to be 25 m deep, with the third of lesser depth. The upper parts of these compartments can still be seen between the mastabas of Kairer and Bebi.⁵

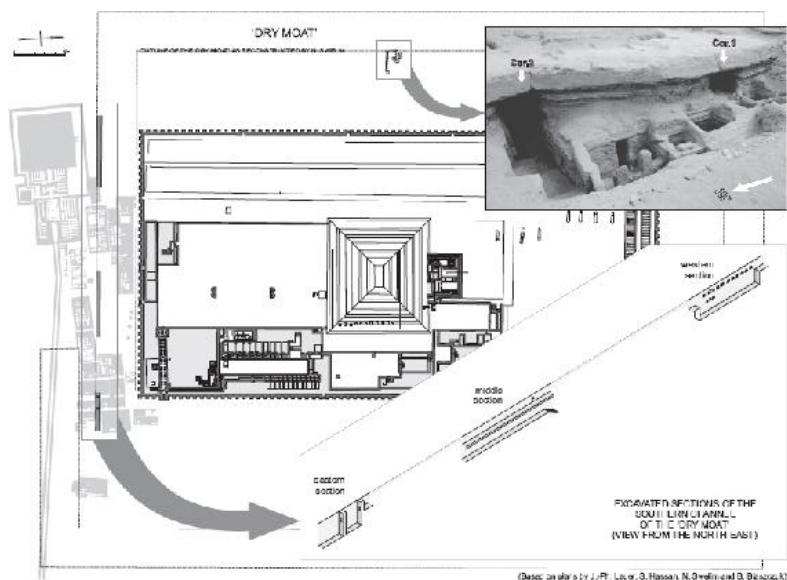


Fig. 1: The ‘Dry Moat’ of the funerary complex of Netjerykhet

The second fragment of the southern channel is situated between the mastabas of Kairer and queen Nebet. It was excavated in 1939–1940 by Zaki Saad who found it to be a long and narrow trench. Steps leading westwards have been reached at the depth of 25 m, but then the work was stopped. In the southern wall of this trench a large niche was hewn, which still can be seen. Also in the southern wall, below the level of the niche, there is a protrusion visible, running along all the excavated part of the trench. As suggested by Nabil Swelim, the protrusion may be interpreted as remains of a collapsed roof.⁶

The third section has been discovered by Zaki Saad in 1939–1940 and 1942–1943, west of the mastaba of queen Khenut. As can be concluded from the evidence published by Saad and by Swelim,⁷ this feature has the form of

a deep, long and narrow, rectangular compartment, 3 m wide and probably about 60 m long (judging by photographs). All four walls of this compartment seem to be regular and almost vertical. A row of ten niches was hewn in the southern wall, probably at a depth of approximately 7.5 m, and a second row, consisting of only three niches, 9 m below them. If the sketch published by Zaki Saad⁸ is drawn to scale, the niches would be over 3 m high. No information concerning their depth is available and it is not known if anything was found inside any of these niches. (However, it may be assumed that any finds would have been reported.) A protrusion in the south wall above the niches may indicate that the compartment was originally roofed. A pavement made of stones and mortar was found at a depth of 26 m.⁹

The northern edge of the southern channel of the Dry Moat has not been found where it might be expected, that is roughly 40 m north of the southern one, close to the temenos wall and parallel to it. The rocky shelf into which several late Old Kingdom tombs (those of Iarti, Ankhi, Snofruhotep and Nengem) are hewn is too irregular and not in a proper position so as to be identified with the expected northern bank of the Dry Moat.¹⁰ Moreover, there is no evidence of any 'trench' or 'compartment' in the area between the structures described above and the temenos wall.

The regular form of these features, the rocky dividing walls with 'doorways', the niches and steps as well as the pavement, indicate that these were not abandoned elements of the unfinished trench, but rather intentionally created structures. It is also noteworthy that the 'doorways' and niches described above are situated in such way that they were not accessible from the ground level or from the bottom of the respective compartments, which may suggest a purely symbolic function.

Thus, although only a few sections of the southern channel of the Dry Moat have been unearthed so far, the available evidence suggests that it was a structure quite different from the initial picture of a simple, wide and quite regular trench. Instead, there is a sequence of interconnected, long and narrow rooms hewn in the bedrock, some of them possibly roofed. The term 'Dry Moat' seems to be somewhat inadequate, at least in relation to the southern channel.

In this context, the section of the western channel excavated by the Polish mission seems particularly interesting. Fragments of the eastern and western edges of a north-south depression have been unearthed, hewn in the bedrock west of the Step Pyramid complex.¹¹

The eastern bank has been excavated to a depth of approximately 5 m without reaching the bottom of the trench. In contrast to what can be seen of the southern sections, the rocky wall here is not vertical, but it slopes at an angle of approximately 55°. However, the rock is very friable and heavily eroded at this section and the original appearance of the edge remains

unknown. There are two unusual features hewn in the eastern bank of this trench, the so-called Corridors 1 and 2.¹²

Corridor 1 runs 22 m eastwards and ends in a rectangular chamber situated on its northern side. Its floor was paved with irregular slabs of *tafla* bonded with mud. In the chamber, a large wooden harpoon was found, lying in a cylindrical box.¹³ The unusual form of Corridor 1 as well as the harpoon found inside may indicate that it was not a sixth dynasty structure, but rather it formed part of the Dry Moat in a way similar to the compartments, openings and, above all, niches in the southern channel.

Corridor 2 is situated slightly over 10 m north of Corridor 1; it is 12.5 m long and 3.60 m high, and in its walls funerary chapels dating from the late sixth dynasty are hewn.¹⁴ Despite apparent differences in their form and purpose, a closer analysis reveals significant similarities between the two corridors. In Corridor 2, there is a distinct division between its upper (above the facades of the chapels) and lower part. The upper part is wider and more regular, reaches deeper into the rock, and its rear wall is very irregular, giving the impression of an unfinished work.¹⁵ Moreover, the roofs of both corridors are placed at the same level, approximately 1 m below the surface of the bedrock. It may be supposed, therefore, that Corridor 2 was planned as a structure similar in form to Corridor 1, but unfinished and adapted at a later date for funerary purposes by increasing its height and hewing the chapels in its walls. Assuming that Corridor 1 dates from the time of Netjerykhet, then also the original Corridor 2 could be of similar date.

An approximately 10 m long section of the western bank has been unearthed about 40 m west of the eastern one. However, the rock on this side is even more eroded than in the east and sixth dynasty funerary chapels were cut into it, thus the original shape and width of the Dry Moat at this place cannot be reconstructed. However, the presence of the two corridors may suggest that the sequence of rock-cut rooms found on the southern side of the Netjerykhet's funerary complex continues also on its western side (and possibly on northern and eastern too, as suggested originally by Nabil Swelim).

All the sections excavated so far of the Dry Moat reveal additional elements: dividing walls with doorways, niches and corridors. This, as well as the appearance of the southern channel of the Dry Moat, suggests that the function of this enormous structure could not have been restricted to separating the funerary complex of Netjerykhet from the outside world. On the contrary, the arrangement of the interconnected underground compartments with niches and corridors, which probably were intended to house statues or ritual objects (like the harpoon in the Corridor 1), brings to mind a sequence of regions to be passed through on the way into the afterlife, as described and depicted in later underworld books.

The deepest excavated section so far of this structure is situated at the

depth of 26 m. Considering that the rock level is irregular and generally higher inside the temenos than outside it, it may be assumed that the Dry Moat's bottom is level with the burial chambers (both under the pyramid and under the South Tomb) and the blue tiled rooms that accompany them. It seems therefore that the Dry Moat and the underground rooms in the pyramid complex were related to each other. The rooms inside the temenos were conceived as a device for resurrection of the king who proceeded from the burial chamber(s) towards the outside. A path leading towards the heaven would be a logical continuation of this process. Thus, it may be proposed that the Dry Moat was intended as a route to lead the resurrected king from his tomb into the afterworld. This road, at least in its presently known part, required the king alternately to descend and ascend, passing through a sequence of underground rooms/regions that probably contained statues or ritual objects. The function of these objects could have been protective or they could have represented dangerous places and beings to be defeated by the king before reaching the heaven.

Comparing this arrangement with the tripartite model of the Beyond proposed by James P. Allen,¹⁶ one can find three related sections in Netjerykhet's funerary complex: sarcophagus chamber(s) – blue-tiled chambers (= antechamber/*Duat*) – the 'Dry Moat' (= corridor opening to heaven).

It should be remembered, however, that the present knowledge of the theology and eschatology in the time of Djoser is still too limited to draw any final conclusions, and several questions remain open.¹⁷ However, if the hypothesis presented above is true, it would mean that the funerary complex of Netjerykhet had one further symbolic dimension, completing those represented by its above- and underground levels.

¹ N. Swelim, 'The Dry Moat of the Netjerykhet Complex', in J. Baines, T. G. H. James, A. Leahy and A. F. Shore (eds), *Pyramid Studies and Other Essays Presented to I. E. S. Edwards* (London 1988), 12–22.

² For example K. Myśliwiec, 'The "Dry Moat" west of the Netjerykhet enclosure', in M. Bárta (ed.), *The Old Kingdom Art and Archaeology. Proceedings of the conference held in Prague, May 31–June 4, 2004* (Prague 2006), 233–237; N. Swelim, 'The Dry Moat, the South Rock Wall of the Inner South Channel', in E. Czerny, et al. (eds), *Timelines. Studies in Honour of Manfred Bietak* (3 vols, OLA 149; Leuven-Paris-Dudley 2006), I, 363–376.

³ Swelim, in Czerny et al. (eds), *Timelines* I, 17–19 and note 6; A. M. Moussa and H. Altenmüller, 'Bericht über die Grabungen des ägyptischen Antikendienst im Osten der Ptahhotepgruppe in Saqqara im Jahre 1975', *MDAIK* 36 (1980), 320. It is reported that Ahmed Moussa, working in 1975 east of the tombs of the Ptahhotep group, found 'the edge of a cut in the bedrock', running north–south, 25 m east of the tomb of Ptahhotep. Above

this, there was a mud-brick wall running north–south. The ‘cut’ can be identified with the western bank of the Dry Moat, although if so, the wall cannot be related to it, because it overlays an Old Kingdom private tomb, as noted in the excavation report.

⁴ Swelim, in Czerny et al. (eds), *Timelines I*, 363–376.

⁵ Swelim, in Czerny et al. (eds), *Timelines I*, 370–373.

⁶ Swelim, in Czerny et al. (eds), *Timelines I*, 373.

⁷ Z. Saad, ‘A preliminary report on the excavations at Saqqara 1939–1940’, *ASAE* 40 (1940), 692; id., *Royal Excavations at Saqqara and Helwan (1941–1945)* (*SASAE* 3; Cairo 1947), 55–67, pl. XXXIV–XXXV; Swelim, in Czerny et al. (eds), *Timelines I*, 373–375.

⁸ Saad, *Royal Excavations*, fig. 7 on p. 66.

⁹ Saad, *Royal Excavations*, 67 and pl. XXXIV.

¹⁰ cf Swelim, in Czerny et al. (eds), *Timelines I*, 363–365, fig. 1–2.

¹¹ Myśliwiec, in Bárta (ed.), *The Old Kingdom Art and Archaeology*, 233–237, with further bibliography.

¹² cf for example, Myśliwiec, in Bárta (ed.), *The Old Kingdom Art and Archaeology*, 233–237.

¹³ K. Myśliwiec, ‘Le harpon de Sakkara’, in H. Gyory (ed.), *‘Le lotus qui sort de terre’: Mélanges offerts à Edith Varga. Bulletin du Musée Hongrois des Beaux-Arts. Supplément*, (Budapest 2001), 395–410; The chamber also contained a deposit of animal bones and a pottery deposit dating from the sixth dynasty; it seems, however, that the contents of Corridor 1 were re-arranged during the sixth dynasty. cf S. Ikram, ‘West Saqqara. Preliminary Zooarchaeological Report’, *PAM* XII (2001), 127–132; id., ‘Typhonic bones: A ritual deposit from Saqqara?’, in S. J. O’Day, W. Van Neer and A. Ervynck (eds), *Behaviour Behind Bones. The zooarchaeology of ritual, religion, status and identity, Proceedings of the 9th Conference of the International Council of Archaeozoology* (Durham 2002), 41–46; K. Kuraszkiwicz, ‘Remarks on Corridor 1’, *PAM* XII (2001), 133–137; T. I. Rzeuska, ‘The Pottery’, *PAM* XII (2001), 138–140.

¹⁴ cf for example K. Myśliwiec, ‘West Saqqara in 2002’, *PAM* XIV (2003) 119–120; id., in Bárta (ed.), *The Old Kingdom Art and Archaeology*, 237; K. Kuraszkiwicz, ‘The title *ḥmty nṯr* – god’s sealer – in the Old Kingdom’, in Bárta (ed.), *The Old Kingdom Art and Archaeology*, 193–195.

¹⁵ K. Myśliwiec, ‘West Saqqara. Archaeological Activities 2003’, *PAM* XV (2004), 121–122, fig. 8.

¹⁶ J. P. Allen, ‘Reading a Pyramid’, in C. Berger, G. Clerc and N. Grimal (eds), *Hommages à Jean Leclant* (4 vols, Bde 106; Le Caire 1993), I, 5–28; id., *The Ancient Egyptian Pyramid Texts* (Atlanta 2005), 8–12; cf also B. Józefów and J. Popielska-Grzybowska, ‘Preliminary Remarks on the Rites of Passage in the Pyramid Texts’, in J. Popielska-Grzybowska and J. Iwaszczuk (eds), *Proceedings of the Fifth Central European Conference of*

Egyptologists. Egypt 2009: Perspectives of Research. Pułtusk 22–24 June 2009 (Pułtusk 2009), 75–82.

¹⁷ cf for example, F. D. Friedman, 'Notions of Cosmos in the Step Pyramid Complex', in P. D. Manuelian (ed.), *Studies in Honor of William Kelly Simpson* (Boston 1996), 337–351; id., 'The Underground Relief Panels of King Djoser at the Step Pyramid Complex', *JARCE* 32 (1995), 1–42. Also: R. Anthes, 'Theology in the Third Millennium B. C.', *JNES* 18 (1959), 169–212; D. A. Cintron, 'Theology in the Time of Djoser', Lecture delivered at the annual ARCe 2007 meeting (<http://www.cintronics.com/pdffiles/TheologyInTheTimeOfDjoser.pdf>, accessed 20 January 2010).

Re-examining the Khentkaues Town

Mark Lehner, Daniel Jones, Lisa Yeomans, Hanan Mahmoud and Kasia Olchowska

Introduction

This article presents archaeological information from work during four seasons (2005, 2007, 2008 and 2009) in the Khentkaues Town (KKT).¹ KKT is the planned settlement north and south of the causeway leading east from the gigantic two-tier mastaba (LG 100) that served as the tomb and memorial of queen Khentkaues I, known from her figure, name, and titles carved into the granite doorjambs of her chapel (Fig. 1). The paper is in four parts: an introduction to the site, our methodology, detailed description, and conclusions.

Khentkaues I – to be distinguished from Khentkaues II, from a later generation at Abusir² – probably lived at the end of the fourth dynasty, when she may have given birth to one or two sons who became fifth dynasty kings. Egyptologists have variously translated her title, *mwt nswt buty nswt buty*, as ‘the mother of the two kings of Upper and Lower Egypt’, or ‘king and mother of the king’, or ‘mother of two dual kings’, or ‘dual king and mother of a dual king’,³ or, possibly, one of these options with the embedded meaning ‘the mother of a king – or two kings – who has the authority of kingship’.⁴

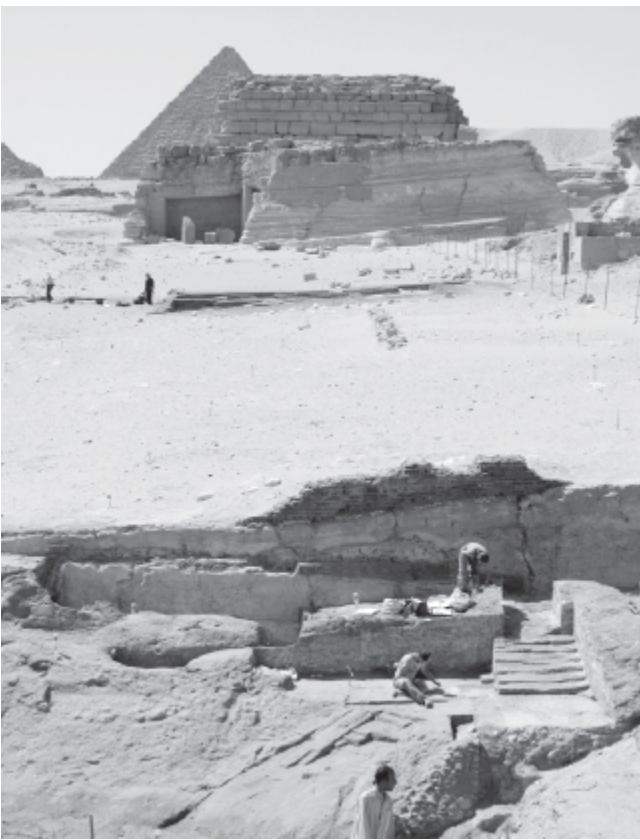


Fig. 1: The Khentkaues I monument, view to the west. Daniel Jones and Kasia Olchowska work on the lower terrace and raised corridor of the eastern approach near the lower stairway ramp and stairs. The Khentkaues Town occupied the, flat, quarried boulevard sloping west. Sand covers the remains of the settlement, except for Building E where Hanan Mahmoud supervises work in the causeway trench. The pyramid of Menkaure rises on the high plateau to the upper left. Kasia Olchowska stands in the northern corridor with a rebuild of the eastern enclosure wall above her. To the left (south) the ascending ledge cut into the bedrock face marks the slope of the Northern Lateral Ramp. Daniel Jones works at on the lower terrace between the lower stairway ramp and the stairs

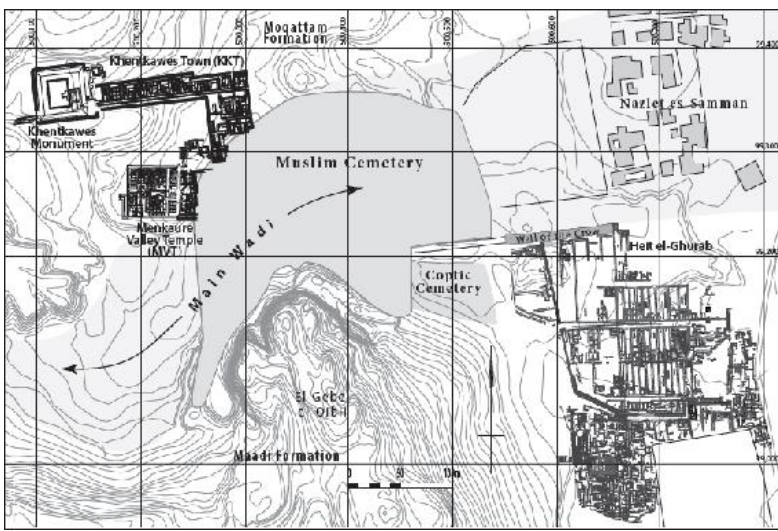


Fig. 2: The location of the Khentkaues Town (KKT) and Menkaure Valley Temple (MVT) in the low, south-eastern part of the Giza Plateau, with the Heit el-Ghurab (HeG) site to the south-east (lower right). The main wadi between the Moqattam and Maadi Formation outcrops opens between the KKT/MVT and HeG settlement sites

We are unaware of any explicit attestation of any family affiliation of Khentkaues I. Based on inference, many, but not all, commentators think that Khentkaues I was a daughter of Menkaure and a wife of Shepseskaf. Scholars have suggested Userkaf and Neferirkare, or Sahure and Neferirkare, or Userkaf and Sahure, Shepseskaf, and Manetho's Thamphthis as candidates for her kingly son or sons.

Aims and interests

Here, we do not go into Khentkaues I's family affiliations and the complexities of the possibilities, though what we present could be grist for that mill. Nor do we speculate a great deal on the royal/private elements in her tomb superstructure, another topic of much prior discussion,⁵ and we avoid going into those issues for questions about dating the monument and for the royal status of this person. We do make inferences from attributes of material culture, but mostly from settlements and mud-brick architecture. Our purpose is to present archaeological information on the settlements of the KKT and the nearby Menkaure Valley Temple (MVT). We hope this information, if not our inferences about it, helps to address the lack of archaeological information as noted by some who have commented on those issues we do not address.

Ancient Egypt Research Associates (AERA) began work in the KKT in

2005 to compare this urban layout to the settlement we had been clearing, mapping, and excavating for twenty years in the site known locally as Heit el-Ghurab (HeG, Arabic for ‘Wall of the Crow’, after the large stone wall that is that site’s defining feature (Fig. 2)). Evidence suggests that the HeG site was mostly abandoned at the end of the fourth dynasty, about the time that life began in the KKT.⁶ We were interested in salvaging and conserving information that might remain in the KKT seventy-five years after Selim Hassan discovered and excavated the site in 1932.

Fieldwork records

Field methods and techniques to excavate and record information have changed since Selim Hassan’s time. We knew little about the KKT beyond its footprint as Hassan’s surveyors mapped it.⁷ Hassan did not publish material culture, such as pottery, in a way that would inform us how long the KKT was occupied. From his excavations between 1908 and 1910 in the MVT, only 30 m south of the KKT, and in Menkaure’s upper Pyramid Temple, George Reisner did publish pottery and other material including fragments of royal decrees on limestone and clay sealings impressed with kings’ names.⁸ From this we know that people served and lived in these temples over the course of three hundred years, from the fourth dynasty reign of Menkaure (c. 2490–2472 BC) into the sixth dynasty reign of Pepy II (c. 2246–2152 BC).

In part I, we showcase salient features that suggest building phases, abandonment, and reoccupation of the KKT upper town. In part II we relate these phases to corridors, ramps and stairs on a lower terrace along the eastern edge of the settlement (KKT-E). It is clear that Selim Hassan’s workers saw and probed the ruins of these structures, but they did not excavate them from the thick layers of mud-brick debris that had collapsed against a vertical face of bedrock exactly along the base of the eastern enclosure wall.⁹ Hassan’s cartographer did not map these features, nor did Hassan mention them in his publication. In Part III we suggest how the phases of the KKT and the KKT-E relate to the building and occupation sequence that Reisner construed for the adjacent MVT.

We draw together this information from two kinds of field reports. When we excavate or record previously excavated areas we give each and every feature – layers, walls, hearths, as well as the cuts of pits and trenches – a unique ‘feature number’ (also known as a ‘context number’) that we log out of a running series so that numbers never repeat (for example, 27,919). We are now in the tens of thousands. Feature numbers appear in this text within parentheses for deposits, such as (32,026), or within brackets for cuts, for example [31,891]. At the end of the season, the Area Supervisors prepare the Data Structure Report (DSR) from pro-forma recoding sheets with prompts for all data essential for post-excavation analysis, from multi-context pre-

excavation and post excavation plans, 1:20 single context plans of each stratigraphic feature, stratigraphic matrices, material culture registers, photographs, and interim reports that all team members file at the end of each week during the field season. After excavation stops, Area Supervisors first sort the hundreds of single features (deposits, cuts, walls, and so on) into groups. Then they organise feature groups into phases, designated by numbers and letter subdivisions, with labels, like ‘Occupation’, ‘Post Occupation’, ‘Abandonment’. Supervisors follow a standard format when writing their DRSs, first analysing the stratigraphy in a stratigraphic summary, by phase and feature groups, from earliest to latest. They then use that analysis to construct the phased narrative, which involves more discussion, and interpretation, phase by phase, again from earliest to latest.

While the Area Supervisors write predominantly in an objective voice for the DSRs, the degree of interpretation increases with each step from the edge of the trowel to the final phase narrative. The DSR with its phasing has a great influence on subsequent analysis – for example prioritising deposits for material culture analysts in the field lab – and on presentation

While the DSR, in this format, is a honed, indispensable format for front-line reporting – a standard practice within a certain sphere of archaeology – we also recognise other forms of presenting and discoursing archaeological information.¹⁰ So far in our work, ‘alternative voices in the construction of data’ include those of the site journals, diaries, and dispatches of Project Director, Mark Lehner and Field Directors, Mohsen Kamel and Ana Tavares. These documents are ‘narrative recordings’,¹¹ following either the course of excavation during the season, or from season to season, or the sequence of excavation top-down, or general topographic descriptions of given areas (like the KKT-E) as ‘archaeological tableaux’.¹² This format differs from the phased sequence of a DSR in both the structure of its narrative and its graphics.

Parts I and II draw on DSRs by Lisa Yeomans who supervised work in the north-eastern part of the KKT in 2007 and the Building E excavation in 2009; Hanan Mahmoud who supervised the causeway trench excavation in 2009; Kasia Olchowska, who supervised excavations in the southern part of the KKT-E in 2008; and Daniel Jones and Kasia Olchowska, who supervised excavations in the KKT-E in 2009,¹³ and on Mark Lehner's 2009 notes and journal. The integrated phasing of the KKT and the KKT-E is the work of Jones and Yeomans.¹⁴

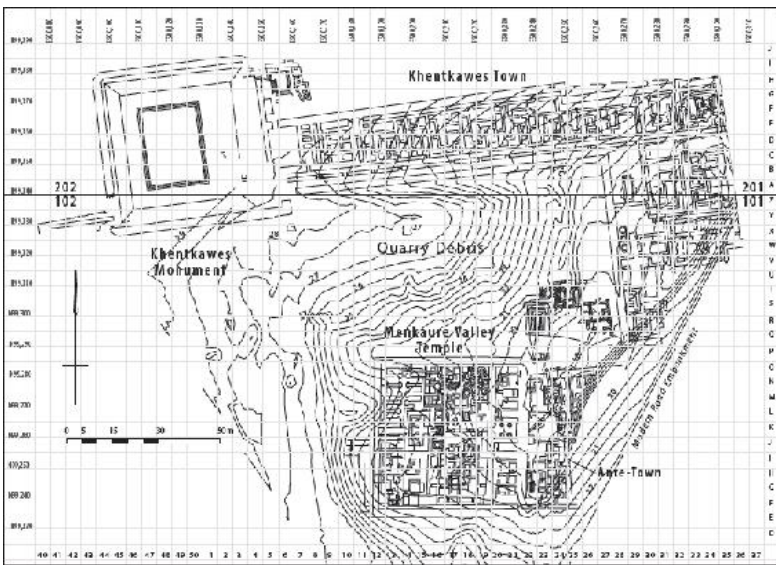


Fig. 3: Giza Plateau Mapping Project grid and contours of the KKT and MVT projected onto Selim Hassan's map, published in 1943, of the Khentkaues Monument, Town (KKT), Menkaure Valley Temple (MVT), and ante-town. The contours reflect the fact that the ancient builders excavated areas for the southern part of the KKT and for the MVT into a massive dump of limestone quarry debris, which still rises between the two zones to 27 m above sea level. The GPMP grid is orientated to true north

I. Changes in the upper settlement (KKT)

The following narrative account proceeds generally according to the order of the phasing by Jones and Yeomans (2010, see previous note), whose phase numbers appear in parentheses after the headings. The phases are summarised in [Table 1.15](#)

Bedrock base and quarry (1, 2)

As seen in the bedrock pedestal of the Khentkaues monument ([Fig. 1](#)), the natural limestone of the Moqattam Formation at Giza is characterised by a sequence of harder layers intercalated with thinner and softer, more clayey layers that dip from north-west to south-east by around 6°. The fourth dynasty quarrymen would take blocks of the harder layers by cutting the base along the softer layers, then prising the blocks up with large wooden levers inserted into sockets cut into the softer layer.

The Khentkaues settlement was laid out on a natural bedding plane, the top of one of the harder layers exposed after the quarrymen removed layers

of limestone higher in the geological sequence. Because erosion has scoured away completely many of the mud-brick walls since Selim Hassan excavated in 1932, we could see the natural bedrock foundation at the north-east corner of the KKT, which Yeomans surveyed and mapped in 2007. This bedrock exposure is probably part of the same bedding plane over the 150 m from the eastern edge of the KKT to the Khentkaues monument. The pedestal of the queen's monument, shaped from a gigantic 10 m high block reserved in the bedrock layers, shows how deeply the fourth dynasty Egyptians quarried to create this surface. On the north they left a series of other bedrock blocks, which fifth dynasty Egyptians used as mastaba-like superstructures for rock cut tombs.

Table 1: Archaeological phases of the Khentkaues Town and its approach (KKT-N – KKT-E)

<i>Phase</i>	<i>Description</i>
9	Selim Hassan archaeological investigations
8	Post-abandonment collapse and infilling
7	Re-occupation of buildings along the causeway and post-abandonment events in KKT-E
6b	Abandonment
6a	Localised activity
5c	Northern Ramp Construction in KKT-E
5b	Occupation of mortuary complex and architectural modifications
5a _{ii}	Internal features and southern causeway wall construction
5a _i	Main layout of mortuary complex
4/5	Architectural additions of uncertain phase
4	Early occupation in Buildings I, J, K and L, and KKT-E
3	Early wall alignments
2	Limestone quarry
1	Natural formations

As we see elsewhere at Giza, the quarrymen cut sockets for levers and wedges that they used to split and lever up the blocks. They followed this procedure until they had exposed a large surface of the underlying harder bed. Yeomans recorded such sockets and other depressions that testify to the origin of the site as a quarry bed.¹⁶

Early Eastern Buildings (3, 4)

Two east–west fieldstone walls later incorporated into Building I might remain from the survey and layout, establishing the orientation and alignment of the town. Yeomans believed these walls were early builds, to which Jones and Yeomans assigned Phase 3, because they are composed of

limestone and overlay directly the bedrock.

Quarry Debris for Levelling (4)

In the southern part of the 2007 clearing, the builders had left a layer of limestone and marl rubble from the earlier quarrying activity to make a more level surface for the southern foot-end of the L-shaped KKT. In places to the north, the builders cut slightly into the bedrock to achieve a more level foundation. However, the entire KKT still slopes considerably from west to east and from north to south.

For levelling the southern end of the KKT, the ancient builders cut into and terraced a large dump of quarry debris that had probably already been dumped before the building of the town. They also cut into this massive dump for building both the southern part of the KKT and the MVT. This massive pile of limestone debris still rises to 27 m above sea level (asl) as a mound that fills the rectangular space between the northern KKT and the MVT (Fig. 3). They also used this debris, consisting of crushed marly limestone, for terracing and landscaping the southern foot of the KKT (KKT-F) and the approach area to the east (KKT-E; see below).

Early Eastern Mud-brick Layout (4)

The mud-brick walls, after 75 years of erosion since Hassan excavated in 1932, increase in preservation to the west and south from the north-eastern corner of the KKT. Even with walls diminished down to the lowest centimetres we could still see successive building phases indicated by overlaps and superimposition.

Yeomans found one of the first indications of two major phases in 2007. The western wall of Building I, the second ‘house’ from the east in the KKT leg (KKT-N), passes directly under the southern wall of the causeway leading to the Khentkaues monument (Fig. 4). Since Hassan's excavation, the western wall of Building I has deteriorated into separate patches a few centimetres thick, but enough remained to map the north–south alignment of this wall, with a marl plaster line on its exterior western face.

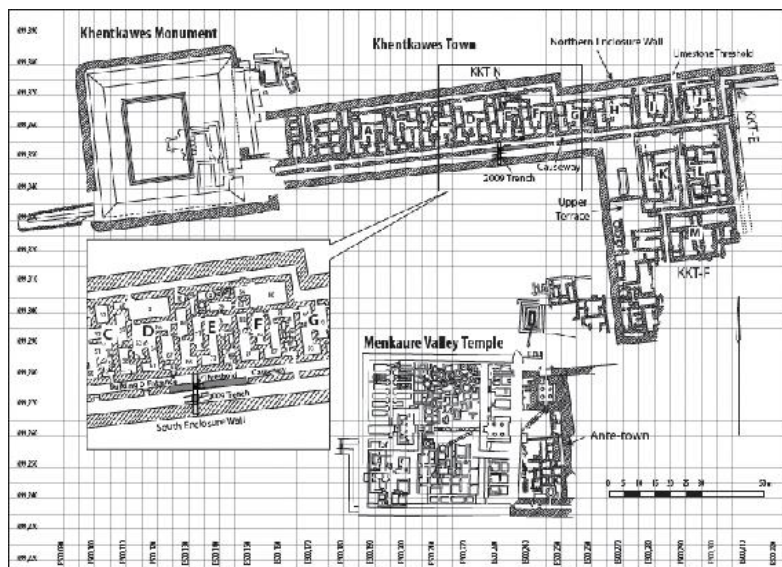


Fig. 4: The Khentkaues Town and Menkaure Valley Temple adapted from Selim Hassan's map. Buildings designated A–M may have functioned as houses. The first building to the east (right) from the Khentkaues monument probably did not function as house, rather as a place of storage and activity connected to the funerary cult and monument

This north–south wall ... appears to continue further to the north (27,919) and because it is has not eroded, whereas the northern girdle wall (27,615) [= northern KKT enclosure wall] has completely eroded away in this area, it seems to indicate that the north–south large mud-brick wall was earlier than the northern girdle wall. Interestingly, the southern external wall of the house units (Buildings I, J) becomes thinner at this point, perhaps indicating a change in the settlement with the western part and the associated northern girdle wall being later additions.¹⁷

The conditions that Yeomans describes can be explained as follows: when builders made the western wall of Building I, they plastered its exterior western face down to the very bottom. When builders subsequently made the causeway wall, the original western wall of Building I had been removed to within centimetres of its base, leaving a trace of the plaster as a light-colour marl line. Now both walls have been removed down to the lowest few centimetres, but in the parts that remain, we can still see the superposition of the later causeway wall and the later northern enclosure wall on the earlier western wall of Building I.

We have found similar traces of at least two phases elsewhere in the KKT, such as in Building K in 2008.¹⁸ In fact, the mix between two or more building phases shows in Selim Hassan's map in both Buildings K and L.

Walls in the southern part of Building L do not make sense as rooms because they belong to different periods of building and occupation. Hassan's cartographer mapped walls of different phases, to which Hassan makes passing mention.¹⁹



Fig. 5: View to the south along the boundary between lower (left) and upper (right) terraces, which marked a thick mud-brick wall that may have been the western enclosure wall of the phase 4 layout that included Buildings I, J, K, and L. To the north the wall shows a marl render with a white plaster line. Quarry debris of the upper western terrace of the KKT foot during the phase 5 expansion rises along the western side of the wall

Yeomans concluded in 2007 that Buildings I and J on the north, and K and

L on the south, all of which share the same width, belong to an early building phase, prior to the construction of the causeway that separated I and J from K and L, and prior to buildings A–H to the west along the northern side of the causeway. In short, the foot of the L-shape of the KKT existed before the ‘leg’.

Original western enclosure wall (4)

Yeomans understood several aligned segments of mud-brick wall (27,919), (27,892), (27,880), (21,888), and (28,809) as patches of the original western boundary wall of the early layout which comprised Buildings I, J, K and L. Further south along this same alignment, we see additional exposures of an thick, early mud-brick wall. Whether the southern parts connect to the northern preserved segments of the original western boundary wall of Buildings I, J, K, and L remains to be investigated.



Fig. 6: Daniel Jones in Trench A along the boundary between the lower terrace (left) and upper terrace (right). The thin wall on the left is the western wall of Building K. The lower wide mud-brick behind Jones may have been part of the original western enclosure wall of Buildings I, J, K and L with a thinner wall built upon what remains of it. Selim Hassan's workers emptied trenches along the western face, which occupants probably dug to repair and rebuild the wall. The early wall builders cut into the quarry debris of the western terrace (right)

Selim Hassan's map barely indicates with a dotted line the thick wall (or walls?) along this alignment. On site, the large mud-brick wall, up to 1.70 m wide, shows very clearly with its top, as preserved, flush with the higher floor level of the later expansion of the settlement to the west (Fig. 5). Toward the north, the wall shows on the western side a thick marl render and

a thin, near-white, coat of plaster. Although it might have been built in segments, this thick wall could be part of the same wall as that of the northern exposures. It is possible the original western enclosure wall ran for the entire north–south length of the KKT foot. To the south, we found a series of short trenches along its western side ([Fig. 6](#)).

In 2008 Daniel Jones investigated the walls along this line in two small sondages. He found that the builders based segments of this original western enclosure wall on a prepared bedrock surface that extended westward under a massive deposit of limestone quarry debris.²⁰ Near the southern end of Building K they built the western side of the wall against a vertical cut through the limestone debris, which is why the plaster with white lime wash visible further north does not show here ([Fig. 5](#), [Fig. 6](#)).

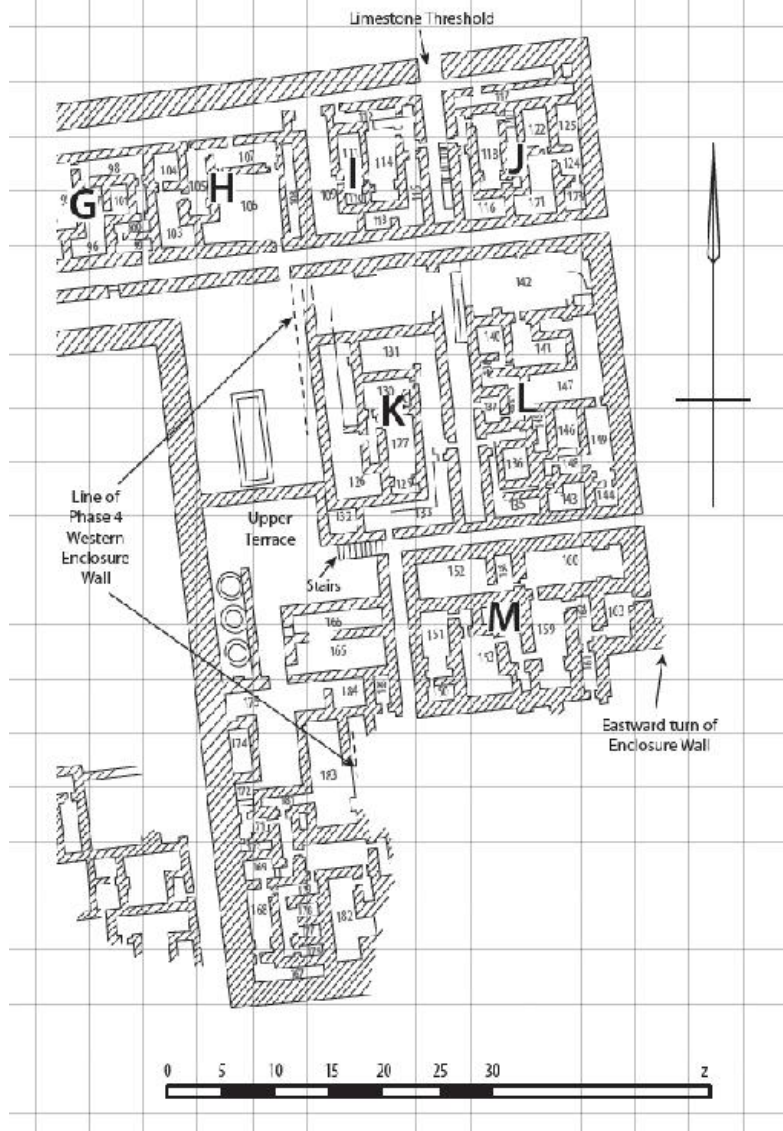


Fig. 7: The southern foot of the Khentkaues Town (KKT-F), redrawn from Selim Hassan's map. The dashed line is where Hassan's cartographer indicated the presence of the thick, early mud-brick wall, that may have been the western enclosure wall of an early (phase 4) complex laid out north to south, which that might have included Building M and structures in the missing south-eastern corner



Fig. 8: View to the east. The limestone threshold of the north–south avenue that once ran between Buildings I and K on the west and J and L on the east. The threshold filled a doorway through the thick KKT northern enclosure wall, which has been completely eroded away since the 1932 excavations, exposing bare bedrock. To the north (left), grey silt fills a path cut into the bedrock. To the south, quarry wedge sockets punctuate the bedrock surface on its slope to the south

When builders expanded the southern foot of the town (KKT-F) to the west (probably in phase 5, see below), they founded the expansion at a higher level upon the terraced quarry debris, creating an upper western and a lower eastern floor level. In at least one place, they projected the higher level east and upon this forward thrust they built the walls of the rooms numbered 165, 166, 184, and 185 on Hassan's map (Fig. 7). The walls of these rooms cross perpendicular to, and above the top of the older western enclosure wall. Otherwise, that enclosure wall now formed the boundary between the upper terrace on the west and lower town on the east. With the expansion, the builders took down the older enclosure wall (29,957) to where it was flush with the top of the upper terrace to build a new, thinner wall (21,909, 84 cm thick) directly upon the older one (Fig. 6). To the south they added at least two buttresses protruding 40 cm from the western face of the wall (21,909).

Selim Hassan recognised the two terraces in the foot of the KKT. In discussing the stairway to the higher terrace at the end of the corridor between Buildings K and L on the north and Building M on the south (Fig. 7) he stated:

At this point the natural level of the ground was sloping and uneven, and this defect was remedied by a thick bed of rubble and debris, retained in place by a stout wall of mud-brick running

across the entire width of this part of the city. The upper level, to which the above-mentioned stairway ascends, is occupied by a rock-cut water tank on the north, and a large granary on the south.²¹

But Hassan's map renders only with the dotted line the distinctive boundary between the upper and lower terrace along the course of what might have been the old western enclosure wall. To the north, where the mud-brick wall forms the western border of Building K, it is much thicker than on Hassan's map. Hassan's cartographer put a dotted line west of Building K, about where the edge of the upper terrace is located, then continued this dotted line along the same alignment toward the southern end of the KKT foot, and then, to the west of the dotted line, drew a thin, solid line indicating the eastern face of a wall that then becomes the western face of a wall, with a projecting jamb, along the east of room 183 (Fig. 7). This is indeed confusing. In drawing a synchronic, schematic plan of the KKT, Hassan's map-maker did not know how to incorporate the diachronic complexities of the terraces, and walls of different phases that overlap and cross, or the trenches along the western face of the older, deeper enclosure wall, which the ancient occupants dug and then backfilled when they made repairs to the wall along this line (Fig. 5).

If the exposures of an early, thick wall along this line belong to the original western enclosure wall of the phase 4 layout of Buildings I–J–K–L, that layout extended 25 or more metres further south than Buildings K and L and possibly included Building M, which we have yet to investigate. The extension of the early layout this far south also brings it into close proximity to the MVT.

Northern access and avenue (4)

A north–south avenue, 2 m wide, ran between Buildings I and K on the west, and J and L on the east. A wide doorway through the northern enclosure wall gave access to this avenue. Six limestone slabs laid into a cut into the bedrock make up a threshold with remains on the east side of a pivot socket, 0.38×0.40 m, for a swinging door that shut against a jamb marked by a moulding on the western side of the threshold.²²

We found this limestone threshold standing alone, rising slightly above the bedrock surface, because here the mud-brick northern enclosure wall has been eroded away completely down to bare bedrock (Fig. 8). Because of this we cannot be certain whether this large doorway functioned with an earlier phase of the northern enclosure wall that bounded the phase 4 layout, or whether builders installed the doorway when they built the northern enclosure wall to its full width of the later phase (5). We note again that

Yeomans found a trace of the western wall of Building I running further north than the southern line of the northern enclosure wall. However, the limestone threshold may have been part of a door in the early phase, positioned as it is at the northern end of the avenue between the western and eastern buildings in the early phase (4).

After the construction of the causeway of Khentkaues I, separating Buildings I–J on the north and K–L on the south and leading to the queen's chapel, movement along the avenue necessitated an underpass cut into the bedrock, 0.90 to 1 m wide and 2.47 m below surface at its deepest point. Thirteen steps make the descent on the north, while the lesser slope on the southern end is without steps. The builders left the bottom of the tunnel unfinished as a series of humps rising half a metre, which would have made passage very awkward. Perhaps the post-causeway use of the north–south avenue was an idea that never took root, and people simply moved in and out of the newly divided complex in other ways, principally the eastern access point.

Eastern entrance (4)

The eastern entrance, where the causeway opens, offers one of the clearest indications of building phases. The causeway of Selim Hassan's published map runs around 1.54 m to 1.60 m wide, but widens out to about 1.72 m at its far eastern opening. When Yeomans cleared and excavated this area in 2007, she found more evidence of at least two major phases in the KKT, and a late period of patching, repair and rebuild.²³

In the same year Yeomans excavated a trench taking out the fill of half the width of the entrance and leaving a north-facing section through the fill on the centre axis of the causeway (Fig. 9). She excavated through a patch of sheet-collapse of small, reddish-brown bricks possibly made of burnt soil. These fell from a very late repair of the face of the southern causeway wall. Underneath, she found traces of marl plaster thinning out over a dark grey sandy surface. The thin layers remained from a floor that functioned with the causeway. When Yeomans excavated this floor, she exposed a large, fine limestone pivot socket, half-oval in shape, 52 cm wide and projecting 50 cm into the causeway from the northern wall.

This pivot socket, which functioned with an earlier floor (28,945) laid directly over the limestone bedrock, is similar to sockets belonging to chapels in the Djoser Step Pyramid complex at Saqqara and in the MVT (see note 19). The extension of the socket from the southern wall of Building J left a passage only 1 m wide next to the southern causeway wall, marked in the surface of the thin remains by the line of its marl plaster. The socket is too large for the width of the causeway.

However, 87 cm further south behind the southern causeway wall

Yeomans found another marl line marking the plaster render on an earlier wall (28,985) that would have made a passage 2.38 m wide. This marl line juts north around a jamb that projects 21 cm on the east and 62 cm on the west. The jamb on the southern wall lies immediately west of the socket on the northern wall, and the two features belong to a doorway that preceded the causeway, a more monumental entrance that left a passage of 2.26 m between the jamb and the northern wall, and 1.72 m between the jamb and the pivot socket.

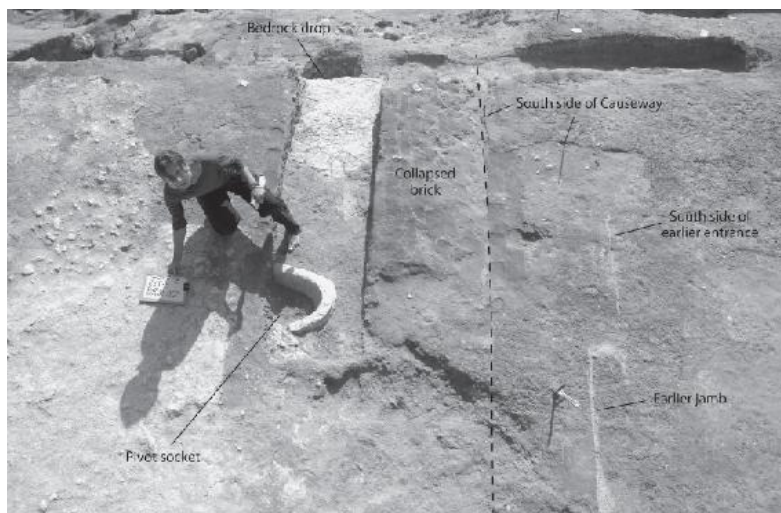


Fig. 9: Two-phase eastern entrance to the KKT. Kasia Olchowska adjusts a label board beside the large limestone pivot socket that functioned with a marl-plastered jamb on the south (lower right) to make an early-phase doorway, 2.38 m wide. The ancient builders narrowed this corridor to around 1.60 m when they made the causeway, the southern line of which shows between the plaster line of the jamb and the pivot socket. The line immediately south of the pivot socket is the section through mud-brick collapse that Lisa Yeomans left from her 2007 excavation. View to the east

Jones and Yeomans note that ‘The western limit of the east–west doorjamb that formed part of the doorway in the eastern enclosure wall did not continue west’ – as the later causeway wall did – ‘but turned at a right angle to the south, suggesting there was no wall running to the west bounding a street. The construction phases of Buildings I, J, K, and

L need to be carefully investigated, but it appears that one entered an open courtyard area bounded to the west by a western enclosure wall, to the north by buildings I and J, to the east by the eastern enclosure wall, and to the south by buildings K and L’.²⁴

Stages of rebuilding the eastern access to the KKT are fairly clear. Builders widened the southern wall, thus narrowing the access, by adding

bricks over the face of the jamb and earlier wall and creating the new face of the southern wall (27,606) of the causeway.

Causeway and northern town (5, 6, 7)

In 2009 Yeomans and Hanan Mahmoud cleared, mapped and excavated Building E, the sixth ‘house’ from the east along the causeway. Yeomans and Tavares have reported on the changes through time to Building E.²⁵ Here, we show the very graphic stratigraphy of changes over phase 5 to 7 in the causeway, as Hanan Mahmoud revealed in a trench she excavated across the Khentkaues causeway immediately south of Building E (Fig. 4, Fig. 10).²⁶

We can match to the stratigraphic sequence in the causeway the sequence of plaster and blocking in the doorway into Building D, 3 m west of Mahmoud's trench. We have not yet assigned feature numbers to Building D, so we provisionally use A, and 1 through 3 to designate the different layers of plaster.



Fig. 10: Hanan Mahmoud's 2009 trench across the causeway south of Building E. Yeomans and Mahmoud excavated Building E, in the background, down to the limestone foundation. View to the north

Plaster at the south-eastern doorway of Building D (5, 6, 7)

The doorway into Room 66, a foyer, of Building D, the next ‘house’ to the west of Building E, shows very clearly in the surface of the truncated southern wall of these houses, which wall (31,108) is also the northern wall

The lines of the original plaster (layer A), 2 cm thick, turn 90° from the east–west orientation along the southern face of the northern causeway wall to run north on either side of the doorway, 70 cm wide. Such a doorway opens between the causeway and each of Buildings A–H.

At some point this doorway was carefully blocked with well-laid bricks that remain in place to the height that the wall still stands. Then the blocking was plastered with a dark sandier marl layer, up to 3 cm thick (layer 1), across the width of the doorway. The wall was subsequently rendered again with a thinner layer (2) of light buff-coloured plaster, 0.5 to 1 cm thick, which runs across the patch of layer 1 plaster and continues over the original plaster layer, A. A thin layer (3) of lighter colour was applied as a finer and smoother finish over the base coat of layer 2.

We can clearly relate the stratification of this blocking and plastering to the vertical stratification revealed in Hanan Mahmoud's trench, 1 m wide across the causeway 3 m to the east of the Building D doorway. The trench crossed one of the series of eleven openings through the southern causeway wall. These openings, which do not correspond with the entrances into Buildings A–H north of the causeway, are shown with thresholds in Selim Hassan's map.

On its run between the doorway of Building D and this trench, the two distinct phases of plaster (A, and 2+3) make a combined thickness of 5 to 9 cm. In the trench, Hanan Mahmoud exposed the original render (A, feature 32, 027), 2.5 cm thick, extending down the southern face of the causeway wall (31,108) nearly to the original floor of the causeway. Plaster layer 2+3, on the other hand, lipped down onto a floor raised 40 cm higher, when the floor was raised. We suspect this was done after a period when the settlement had been abandoned. This late remodelling is commensurate with the small brown brick patching, repairs, and complete rebuilds of some walls that we are finding here and there throughout the KKT.

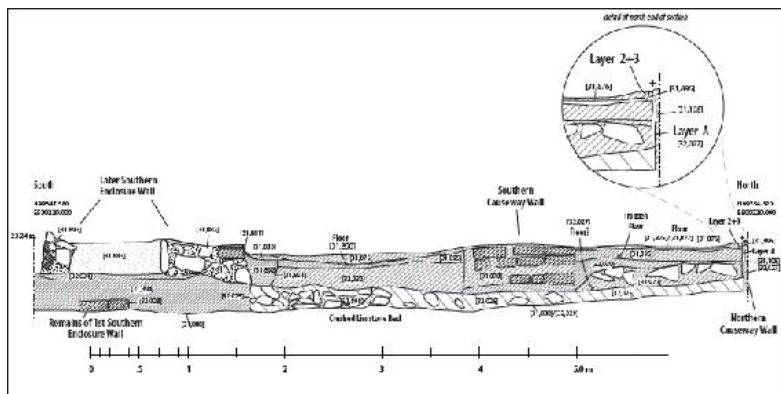


Fig. 11: East-facing, stratigraphic section of Hanan Mahmoud's 2009

The Causeway Sequence (5, 6, 7)

The ‘history’ of the Khentkaues causeway shows graphically in the east-facing, western section of Hanan Mahmoud’s 2009 trench. This sequence begins when in phase 5 Khentkaues I’s builders extended the settlement to the west of the phase 4 layout along a southern wall that would soon serve as the northern wall of the causeway. Here we list the steps of the sequence in reference to Hanan Mahmoud’s drawing of the east-facing, western section of her trench ([Fig. 11](#)), and we make some observations about certain parts of this sequence. These paragraphs are a step-by-step account of the sequence of events indicated by that stratigraphic section, and to be understood must be read with reference to the feature numbers on that section and in the text.

A layer of crushed limestone (31,888)/(32,029) was laid down, on the surface of which (31,888) the northern causeway wall (31,108) and the southern enclosure wall (31,028) were built, creating a roadway, 5 to 5.20 m (10 cubits) wide.

In Hanan Mahmoud’s trench, the original northern edge of the original southern enclosure wall (32,028) was not preserved. If the northern side of the original enclosure wall fell along the same line as the northern edge of the later phase southern enclosure wall (31,882 + 31,893), the roadway between the original enclosure wall (32,028) and the northern wall of the causeway (31,108) was 5 to 5.20 m (10 cubits). Hanan Mahmoud’s section shows the width as 5.10 m. We might note that this is about the width of the principal east–west streets (North Street, Main Street, and South Street) through the Gallery Complex in the HeG site in the early phases.²⁷

How long did this ten cubit width remain before the southern causeway wall (31,878) was created? We do not know, but the fact that we see little evidence of paving or accumulation on the surface of the limestone crush layer (31,888) suggested this ‘street’ was simply a step in the construction of the northern and western part of the KKT that included Buildings A–H, the causeway, and the northern and southern enclosure walls. The southern face of the northern wall (31,108) was only plastered down to a second layer of crushed limestone (32,026) on which the southern causeway wall was based.

A second layer of crushed limestone (32,026), 10.5 cm thick, was laid down against the unplastered southern face of the causeway wall (31,108).

The foundation layer of crushed limestone (32,026) runs under the southern wall (31,878) of the narrow causeway, but it stops at a cut [32,025] 85 cm south of this wall (31,878). The earlier phase of the southern enclosure wall (31,028) rests upon the earlier layer of limestone crush

(31,888), so we cannot doubt that the original southern enclosure wall is earlier than the second limestone crush layer (32,026).

A coat of plaster (32,027) was applied to the southern face of the northern causeway wall (31,108) down to the top of the second crushed limestone layer (32,026). This plaster (32,027) is continuous with plaster layer A in the doorway to Building D.

The surface, or floor, was plastered at the top of the second crushed limestone layer (32, 026) in the width (1.62 m) between the causeway walls (31,108, 31,878).

Lehner noted, post-excavation, a very thin marl render on top of the limestone layer (32,026) in the east-facing section of the trench, but this is not certain. He observed that the southern causeway wall (31,878) rests directly upon the top of this marl render. Hanan Mahmoud (2009) did not mention such a feature. In her DSR, she wrote: 'The wall (31,878) was founded upon a bedding layer of silty sand which was very similar to the wall and was approximately 10 cm thick'.²⁸

The southern wall of the causeway was built, dividing the east-west 'street' between the causeway, 1.62 m wide on the north, and a roadway, 2.22 m wide, on the south. A floor (32,027) may have been made on the surface of the limestone crush layer (32,026).

Rough-hewn limestone pieces (31,899) were laid into the opening through the southern causeway wall, either as blocking or, more likely, as a kind of threshold. The limestone threshold sloped down from north to south.

The southern enclosure wall (31,028) was removed down to the last few courses of bricks.

We should place the removal of much of the southern enclosure wall at this stage in the sequence because it necessarily happened earlier than the silty deposit (31,894) that covered what remains of the wall (31,028), as shows in the western, east-facing section of Hanan Mahmoud's trench. Mahmoud positioned her trench through one of the openings through the southern causeway wall (31,878) through which some deposits are continuous. This point is important for the history of the settlement, because the partial erosion or demolition of the southern enclosure wall (31,028) was one of our first signs of possible abandonment of the KKT settlement, or the disuse of major parts.

We do not know if natural forces or man dismantled the southern enclosure wall (31,028) to a point where, in the trench, it exists as three rows of header bricks on the southern side, altogether 1.20 m wide (north-south, [Fig. 12](#)). These are large bricks of dark, slightly sandy silt ranging from 34 to 37 cm long and about 19 cm wide. Only two of these bricks show in the east-facing section of the trench. The squareness of the remaining patch of bricks of this wall (31,028) suggests the wall may have been intentionally

dismantled.

A layer of concentrated silt (31,894), 39 cm thick, was laid down over the remains of the southern enclosure wall (31,028).

In her DSR, Hanan Mahmoud deals with layer (31,894) next after discussing the building of the southern causeway wall (31,878). She describes this layer as 'loose silty sand (40:60) mixed with frequent Nile clay, frequent plaster patches, very occasional granite fragments and moderate pottery sherds'.²⁹ Layer (31,894) may have been left from the dismantling of the original southern enclosure wall (31,028), and the fragments of plaster might reinforce this suggestion. The material could have been left as a bedding or make up layer, as Hanan Mahmoud suggested, for the subsequent rebuilding of the enclosure wall. The deposit (31,894) ends on the north just below, and about on line with, the northern side of the later southern enclosure wall (31,882) at a discontinuity that might be a cut [32,025], which was filled with deposit 31,898.

A shallow trench, 1.30 m wide, was dug along the northern side of where the original enclosure wall (31,028) had run. The southern side of this trench cut [32,025] through the northern side of the crushed silty sand and debris (31,894) from the demolition of the original southern enclosure wall (31,028). The north side cut through the higher foundation layer of crushed limestone (32,026). The bottom of the trench exposed the top of the lower layer of crushed limestone (31,888). We do not know the purpose of this trench; could it have been to ascertain the northern edge of the original enclosure wall to rebuild it?

This trench [32,025] was found filled with a layer, 30 cm thick, of limestone fragments in silty soil (31,898).

About the same time as they filled (31,898) the trench [32,025] on the south, to the north within the causeway builders covered the possible first marl floor with a layer of dark silty sand, 22 cm thick, with large limestone fragments (31,977).

South of the causeway, the limestone and silt fill (31,898) of the trench [32,025] and the top of the second layer of crushed limestone (32,026) was covered with a layer, 10 cm thick, of slightly sandy silt (32,030). The same layer (32,030) was laid down over the limestone and silt layer (31,897) within the causeway. The surface of the sandy silt layer (32,030) was trodden into a floor 22 cm above the possible first marl floor (32,027) of the causeway. This was the second floor within the causeway. A layer, 13 cm thick, of very compact, dark grey, brown silty sand (31,895) was spread over the floor surface trodden on the underlying silty layer (32,030) in the causeway, and paved with marl to the south (31,890)

Builders cut a trench [31,891], 28 cm deep, through the marl floor (31,890) and down through the dark gray, brown, silty sand (31,895) and through the lower layer of silty sand with frequent marl plaster fragments

(32,030) along the line where they wanted to rebuild the southern town enclosure wall.

On the bottom of the trench, workmen laid down a thin (7 cm) layer of slightly silty sand (32,031) as bedding for the new southern enclosure wall.

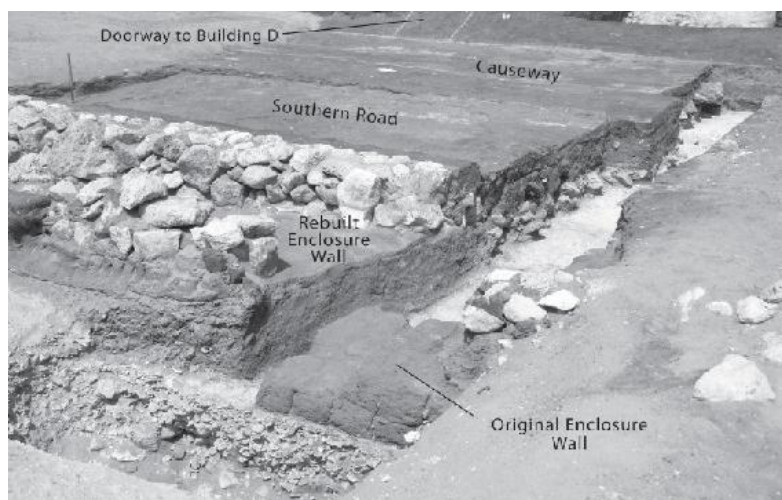


Fig. 12: Hanan Mahmoud's trench across the causeway, with (phase 5) remains of original southern enclosure wall (foreground) and (phase 7) enclosure wall rebuilt with small bricks and limestone fragments on silty debris. Doorway to Building D, blocked in phase 7, in background

The northern casing of the new southern enclosure wall was constructed with small bricks and limestone fragments (31,882) in the trench [31,891]. At the same time the builders created the southern casing (31,893) of the same materials (Fig. 12), and filled the space between the casings with sand and silt (31,883).

The foundation trench [31,891] was filled with fine silty sand with limestone flecks (31,892). The surface of the fill (31,892) of the foundation trench was re-plastered with marl (31,881) along the northern side of the enclosure wall (31,882).

Layers of marl plaster (31,896, 31,875) were applied over the original plaster (32,027) of the southern face of the northern causeway wall (31,108). At the same time the second of these plaster layers (31,875) was applied to the floor of the causeway. This is the same application as plaster layers 2 and 3 across the blocked doorway of the entrance to Building D (see above).

A layer of silt (31,876) from decayed mud-brick developed above the floor (32,895, 31,890) between the southern enclosure wall (31,882) and the southern causeway wall (31,878).

Abandonment, return, rebuilding (7)

Whereas the first southern enclosure wall consists of solid, large, dense mud-bricks of dark silt, the later builders made the second southern enclosure wall (31,882, 31,893) with casings on either side formed of limestone pieces and smaller brown, slightly reddish, mud-bricks of silty sand that may have been lightly burnt before being formed into bricks (Fig. 12). These are the same kind of bricks we see in the latest repairs at the eastern end of the causeway. The builders filled the core of the wall with sandy soil (31,883). This cheaply-made wall, altogether 2.20 m wide, was a complete rebuild of the older southern town enclosure wall (31,028), which had been robbed of most of its bricks at this spot and buried in a layer (31,894) of silty sand with brick fragments. The builders of the later enclosure wall did not reuse the bricks of the earlier one as far as we know. Did people remove these bricks for building elsewhere?

The stratification in Mahmoud's causeway trench shows a rebuilding after a period of abandonment. This order of events is evidenced in other places. For example, Yeomans recorded a late, phase 7 wall along the line of the east face of the western walls of Buildings I and K.³⁰ This late wall, 40 cm thick, had eroded into two segments (27,903 on the north, 28,610 on the south). Like the late rebuilding of the southern enclosure wall, the builders made casings of broken limestone and filled the core with silty material capped by more limestone. The northern segment (27,903) overlays on its southern end the scant remains of the northern wall of the causeway. This suggests that the causeway had been taken down, at least at this spot, by the time the later wall was built. However, the two main segments of the late limestone wall leave an opening for the passage of the causeway.

Reoccupation and house intermingling (7)

Selim Hassan recognised two distinct phases in the KKT, especially in the area of Buildings K and M:

The space lying between the ramp of the subway and the eastern girdle wall of the city had been occupied during two successive periods, the later houses being erected upon the ruins of their predecessors; thus we find two levels of ground at this spot. The later buildings are in a bad state of preservation, and the bricks used in their construction are smaller than those of the earlier period.³¹

Hassan surely refers to the small brown bricks of sandy silt that were used to repair the causeway entrance and rebuild the southern enclosure wall. We also found these bricks used in extensive repairs in Building E.

The transformations during a re-occupation and rebuilding that we found in Building E carry implications for the social and economic organisation of

the settlement. The preservation of the walls in Building E is much better than in houses at the eastern end of the northern KKT. Yeomans found walls standing 30 to 32 cm high at the western side, and 9 to 10 cm high at the eastern side of the northern end, 50 cm high at the south-eastern corner, and 75 cm down to the limestone crush foundation layer spread at the south-western corner due to the pronounced slope to the south.

Through the first phases of occupation, Building E underwent a number of modifications, including blocking of doorways and construction of four round grain silos in the northern open court (Hassan's 'reception hall') of Space 79.³² In the latest phase (Jones and Yeomans 2010 phase 7; Yeomans's 2009 phase 6), several of the walls in the south-eastern corner of Building E were extensively repaired, a screen wall (31,072) was added on the east of the silos in Space 79, and a new wall (31,100) built between spaces 73 and 74. For most of these repairs the builders used 'small, (21 × 11 × 7 cm) brown, sandy mudbricks',³³ again, slightly reddish, as though the soil had been burnt before its use for making bricks.

These differ noticeably from the bricks used in all earlier phases. For the longest stretches of rebuilding (31,852) in the eastern wall (31,075) of Building E, the builders used these bricks 'to form the eastern and western faces with a core of dark grey ashy silt containing moderate quantities of pottery'.³⁴ This construction is, again, similar to the late rebuilding of the southern enclosure wall in Mahmoud's trench, and to the wall along the western sides of Buildings I and K.

Yeomans noted:

There is some evidence that ... the building [E] was abandoned before a phase of rebuilding and occupation ... a number of the walls in the southeastern part of the building were rebuilt. In order to rebuild, the earlier Nile clay walls were cut, almost down to the base in some parts, before rebuilding with small brown sandy bricks with a core fill. This would suggest that there was significant damage to the earlier walls, possibly after a period of abandonment.³⁵

Our work so far indicates that during this late occupation, Building E was a functional extension of Building D to the west. People had carefully blocked and plastered (Layers 2 and 3, see above) over the causeway doorway to Building D, while the causeway doorway to Building E still functioned.³⁶ By this time, in the earlier period of occupation, the access from Building E to the northern street had already been blocked. It is possible that people could enter the combined interior of Buildings D and E through the northern wall of Building D, but we have not yet examined that building. Our work in 2009 indicates that in the late phase the people built four round silos in the broad room or court of Building E. However, they had also completely blocked access from the rest of Building E into this space,

which could now be accessed only from Building F to the east.³⁷

The change of access could reflect change of residence between and across buildings A–J. As part of the complex that included the causeway (phase 5), these appear to have been conceived as houses organised on the same or similar ground plan for residents serving a similar purpose, an expression of some authority's plan for a social and economic order. During the reoccupation, residences may have extended across and between the prior boundaries that separated units, reflecting a different administrative and economic order, as well as social change in the settlement.

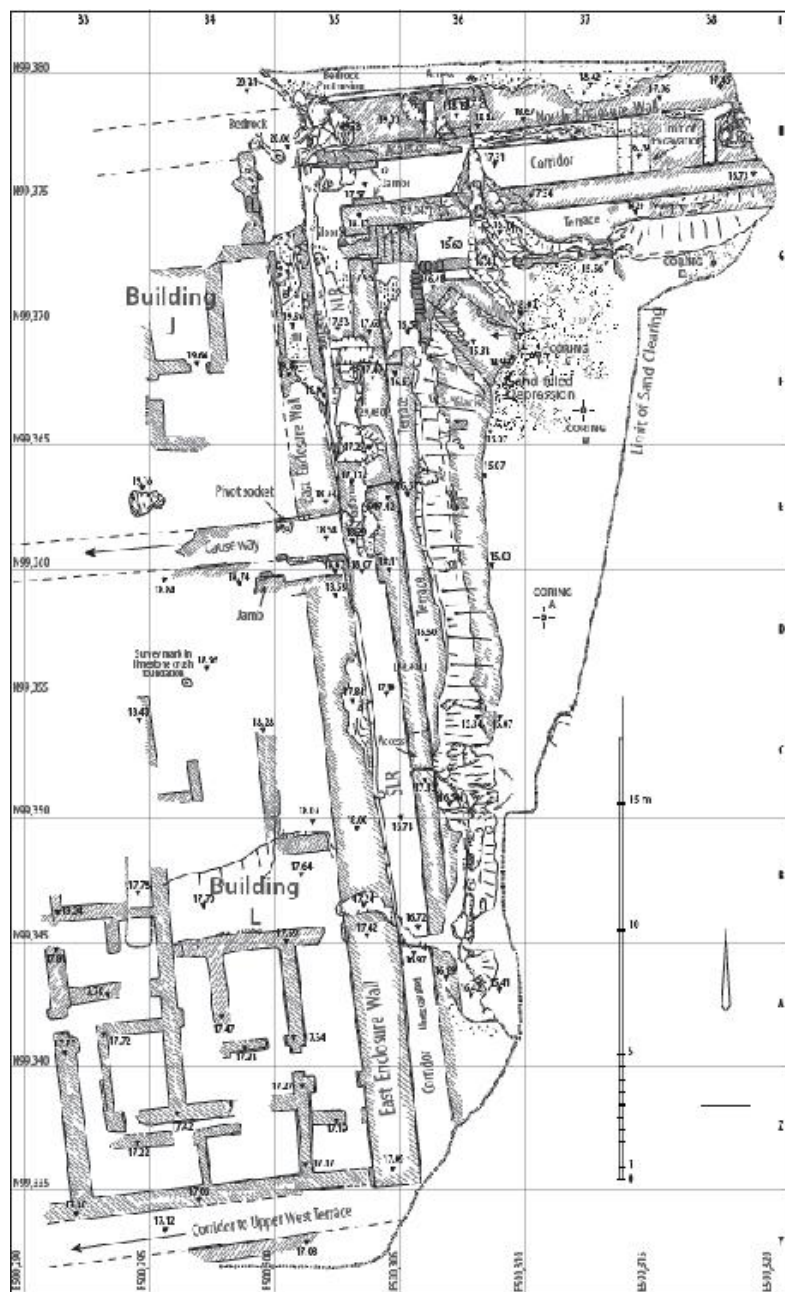


Fig. 13: Form-line map of KKT-E and eastern KKT, showing all features exposed and left in place at the end of the 2009 season



Fig. 14: KKT-E at the end of the 2009 season. View to the west. Daniel Jones and Kasia Olchowska stand in the northern corridor where the North Lateral Ramp was removed, leaving the bedrock ledge to mark its slope to the causeway threshold

II. Khentkaues valley complex (KKT-E)

Between 2007 and 2009, even as our team carefully mapped and decoded the phasing of what remained of the KKT upper town, we excavated mud-brick structures that comprise an eastern ascent via corridors, ramps, and stairs from a lower L-shaped terrace around a deep depression (KKT-E). We then faced the question of the relationships in time between the structures of the lower approach and the upper town.

In 2007 Yeomans found that the bedrock surface on which the KKT was built drops vertically exactly along the eastern base of the eastern enclosure wall. Between 2007 and 2009 we excavated a mud-brick complex built onto an L-shaped lower terrace or shelf along the western and northern sides of a deeper cut into the bedrock (KKT-E).³⁸ The northern terrace, walls and corridor (see below) extend east beyond the eastern limit of our excavation (Fig. 13).

It is hard to convey the immensity of the sand deposit, and the great depth to which we excavated to expose the lower approach. At the beginning of our season 2009, the sand mounded as high as elevation 24.00 m asl. Our deepest excavation through the sand filling the depression reached 14.60 m asl, where we had to stop because of the water table. The drop of 9.4 m made this one of the deepest, most dramatic excavations we have ever undertaken at Giza, almost double the depth of our 2004–2005 excavations through

essentially the same sand deposit north of the Wall of the Crow. From the bedrock floor at the north-eastern corner of the KKT (20.00 m asl) the surface drops 5.4 m to the lowest point we could excavate in the depression.

As we removed the sand, we witnessed the gradual emergence of a dark grey mass of toppled mud-brick up against north-western corner of the dramatic drop. The mud-brick ruins descended at a steep slope ever deeper into a depression filled with clean sand. Within this mass, the continuation of the KKT northern enclosure wall (29,008) was clear, running thick and strong to the east at a slight downward slope. We could also make out the eastward continuation of a parallel wall forming a corridor. A deep, irregular erosion channel ('the Gully') begins at the top of the mud ruins through a wide doorway in the northern enclosure wall. The running water that most probably created this channel cut down to bedrock through the entire sloped mud mass, including the corridor wall.

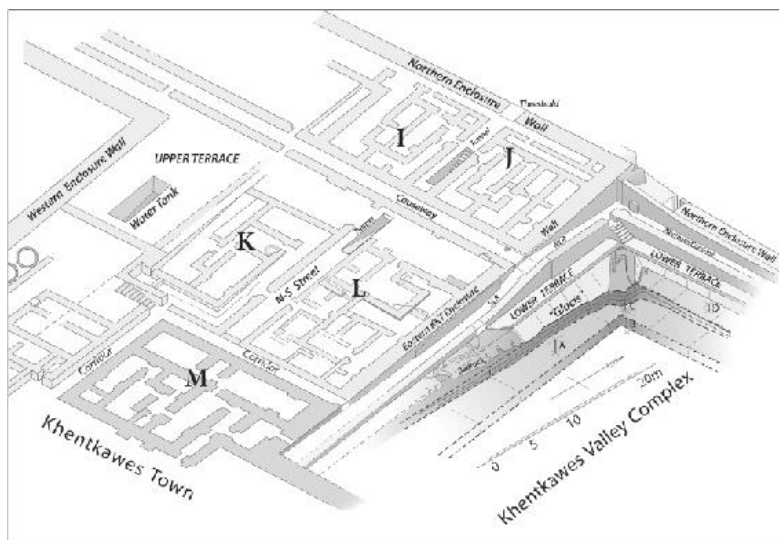


Fig. 15: Schematic, isometric drawing of the lower approach, KKT-E and the north-eastern corner of the upper town, KKT. The drawing represents all features known as of the end of the 2009 season, while reconstructing features and walls. The ground plan of Buildings I, J, K and L is based on Selim Hassan's map

During the 2009 season Daniel Jones and Kasia Olchowska supervised excavations into the mass of mud-brick, beginning in the north-western corner. Jones worked to the south excavating and recording the stairs, lateral ramps and terrace. Olchowska worked toward the east, excavating parts of the corridor, the northern enclosure wall, and the access through it.

Here we describe components of the lower approach in sequence with the integrated phases that Jones and Yeomans worked out recently for both the

KKT and the KKT-E.³⁹ Figures 13, 14, and 15 show all features known, from the earliest to the latest phases, as of the end of our 2009 season. The report of Jones and Yeomans on the integration of phasing in the KKT and the KKT-E includes maps of the features of individual phases from earliest to latest.

Bedrock cut to lower levels (2)

Because Khentkaues' builders founded her town upon a natural geological plane, the whole town slopes to the south-south-east following the dip of the Moqattam Formation outcrop at Giza. At some point, quarry workers cut the vertical drop [28,849] into the bedrock surface (Fig. 1, Fig. 15). This ledge runs exactly along the base of the eastern KKT enclosure wall and forms the western side of the valley complex. The top of this ledge [28,849] slopes down 6° from north to south following the dip of the geological bedding.

Certain features of this terracing make it difficult to conclude the KKT builders simply used bedrock forms left fortuitously by the large-scale quarry work. These features suggest that the KKT builders custom cut the bedrock as a foundation for the terraced mud-brick architecture east of the settlement, the area we call the KKT-E, or the Khentkaues valley complex.

Bedrock foundation for the northern enclosure wall (2)

Those who cut the northern end of the vertical drop [28,849] left an eastward protrusion (29,068) of bedrock, 2.10 m wide and extending 2.62 m (5 cubits), as a base for the extension of the northern enclosure wall just where this wall continues east beyond the corner with the eastern KKT enclosure wall as mapped by Selim Hassan (Fig. 16). This bedrock extension, and the corner it forms with the bedrock ledge running flush under the KKT eastern enclosure wall, suggests that either the eastern and northern enclosure walls already existed when the quarrymen cut the vertical bedrock face, or that the builders already planned those walls when the quarrymen made their cut.

Uniform level of the lower terrace (2)

At the bottom of the bedrock cut, the quarry workers left a shelf or terrace (32,418) along the western and northern sides of a deeper drop to the bedrock. The upper surface on which the KKT is founded slopes from north to south following the natural dip of around 6° of the limestone bedrock strata, while the lower terrace is roughly level. The result is that the upper surface rises 3.44 m above the lower terrace on the north. At the end of the KKT causeway, the upper bedrock rises about 1.89 above the lower bedrock terrace. The top of the higher bedrock surface rises only 1.26 m above the

level of the lower bedrock terrace at the southern end of the area we excavated in 2009.⁴⁰

Orientation of settlement and bedrock terracing (2, 3, 4)

The whole of the KKT is shifted slightly west of true north and thus counter-clockwise to our survey grid, as is the 'quarry cut' between the bedrock base of the upper town and lower terrace (Fig. 3). The shared orientation suggests that those who built the early settlement (phase 4) were following a plan when they made the bedrock cut and built the first structures in the KKT-E.

The lower drop in level (2)

Here and there we see, exposed from under the mud-brick ruins, patches of the lower edge of bedrock where the lower terrace drops into the deeper depression. From these patches we gain some indication of the width of the lower bedrock terrace. In a wide and deep erosion channel (the Gully) immediately north of the lower stairway ramp we see an exposure of bedrock that descends in five steps, 12 to 40 cm high, crossing the north-western corner of the KKT-E at an angle (Fig. 13). The stepped bedrock is 7.10 to 7.60 m east of the vertical bedrock face. A patch of bedrock that protrudes from the bottom north-eastern corner of the lower ramp is 8.30 m east of the vertical bedrock face. Close by the southern side of the lower stairway ramp (see below) part of the lower bedrock shelf that Selim Hassan's workers exposed in a small trench extends 4.04 m from the face of the higher ledge. Fifteen metres further south we found the bedrock foundation of the terrace exposed where the terrace floor and bedding of crushed limestone debris had been eroded away. Here the lower bedrock edge is very irregular and extends 4.60 to 3.80 m east of the line of the vertical drop.

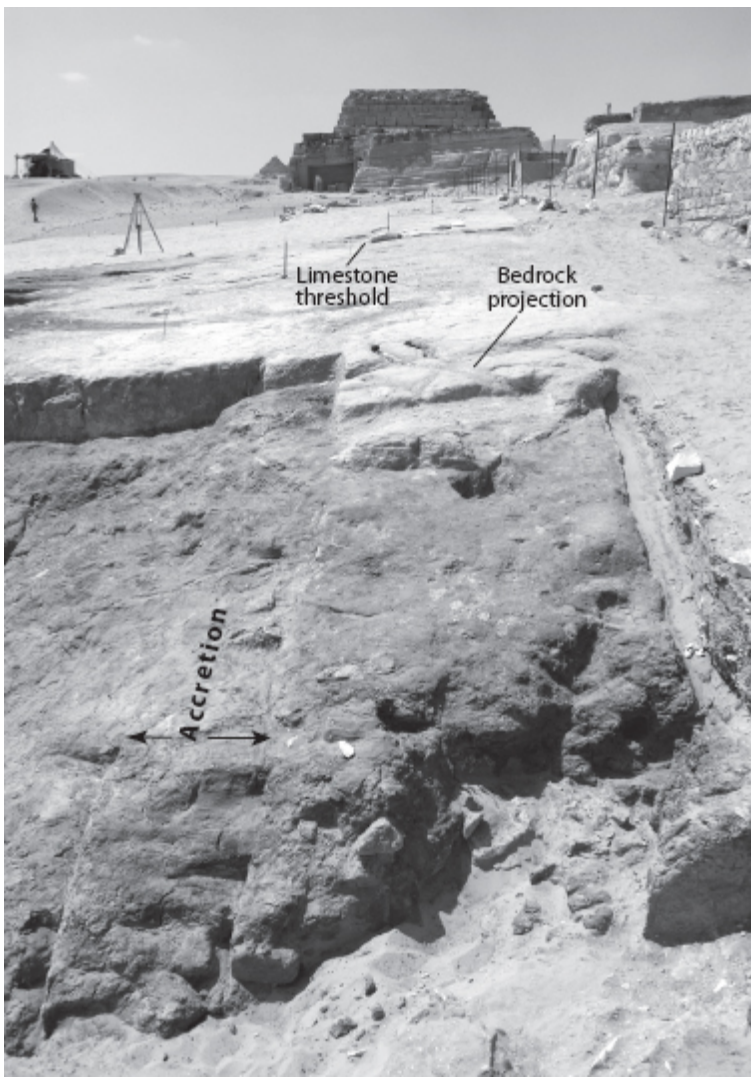


Fig. 16: The northern enclosure wall of the KKT, completely scoured down to bedrock along on the west, continued in marl-plastered mud-brick to the east beyond the corner with the eastern enclosure wall (also scoured away down to bare bedrock). The foundation of the wall extends as a bedrock projection. View to the west

From these exposures we conclude that the bedrock descent into the deeper basin, still filled with sand that we probed only by our core drilling, thins from north to south and is less regular than the cut between the upper and lower terraces. The irregular stepping suggests the quarry workers did not leave clean-cut faces or a good 90° corner in the lower bedrock as they did for the upper bedrock ledge in the north-western corner below the eastern and northern KKT enclosure walls. That higher vertical face and corner, with

an orientation shared by the later town, and with an extension of bedrock carefully reserved for the base of the northern enclosure wall (Fig. 16), must have been started when the idea for the KKT-E complex and the upper town, in some form, was already conceived.

We do not know how much of a bedrock shelf exists running from west to east under the northern side of the KKT-E because the stretch we have exposed so far is covered by the built terrace, corridor and the northern enclosure wall. The stepped bedrock exposed in the north-western corner lies 6.1 m south of the original southern face of the northern enclosure wall (before its 'accretion' was built). Another patch of bedrock exposed 4 to 4.5 m east of the corner extends 5.5 m south of the original enclosure wall, so it is likely that a bedrock shelf exists on the north and thins to the east.

On the south of our exposure, where the bedrock becomes very irregular, two channel-like cuttings frame a hump of bedrock 1.60 m wide (Fig. 13, Fig. 15). Lehner considered that these features could indicate where a lower stairway ramp attached on the south, symmetrical with the lower stairway ramp at the north-western corner.⁴¹ The two channels are orientated slightly south-west to north-east, roughly symmetrical with the orientation of the northern lower stairway ramp, north-west to south-east. A doorway through the corridor wall that functioned in an early phase of the Southern Lateral Ramp (see below) is just above these features cut in bedrock. If a lower stairway ramp existed here, the counterpart to the one in the north-western corner, we might expect it to mark the south-western corner of the basin and terrace of the KKT-E, which would imply an edge and possibly a corridor running east, the counterpart of the northern edge and corridor. The south-western corner would then be about 17 m from the north-western corner, as measured from the southern side of the lower stairway ramp to the northern side of the southern cuttings in the bedrock face.

Against this possibility, the lower bedrock edge continues on to the south and aligns neatly with the mud-brick retaining wall (30,848) marking the edge of the terrace at the north-western corner and at the upper end of the lower stairway ramp. So it does not appear that we have here a south-western corner to the terrace and basin.

Bottom of the basin (2)

The lower bedrock terrace drops about 1.91 m into the basin, based on the average level of the bottom of the basin as determined in four core drillings through the unexcavated sand. The bedrock appears to descend into the basin in steps. The bedrock exposed by the Gully under the north-eastern side of the lower stairway ramp descends in irregular steps (see above). As of the end of our 2009 season, the basin remained filled with sand, saturated with ground water below elevation 15 m asl. We made four boreholes to find the

bottom (A to D, Fig. 13, Fig. 15). Lehner's isometric reconstruction (Fig. 15) drawing shows in dashed lines a possible bedrock step along the northern side at elevation 14.54 m asl, where borehole D stopped at a hard surface.⁴²

Borehole C, in front of the lower stairway ramp, stopped at a hard surface at elevation 13.63 m asl, possibly a bedrock step or terrace along the western side of the basin. Borehole A stopped at a hard surface at elevation 13.54 m asl about 9.5 m further south. Borehole B, the farthest east of the four, encountered a hard surface at elevation 12.43 m asl, which is as deep as the best estimates for the level of the Nile flood-plain in the Old Kingdom.⁴³ It is possible that further east the bottom of the basin slopes or steps down even deeper.

L-shaped cut into bedrock (2)

The artificial 90° cut into the bedrock, which drops the surface nearly 10 m, must continue for some distance further east. The bedrock exposures just north of the KKT-E suggest this continuation. Immediately to the north of our area KKT-E, the rock-cut and built tombs of the eastern part of the Central Field, excavated by Selim Hassan, continue at least 50 m further east of our 2009 excavations, and the Khafre Valley Temple and the bedrock terrace in front of it extend about 150 m east of the eastern end of the KKT. The bedrock surface immediately west and south-west of the Khafre Valley Temple slopes down to the south-south-east at the 6° dip of the bedrock layers, because the quarrymen exposed the top of a natural limestone bed, as they did for the foundation of the KKT.

A deep 90° cut along straight east–west and north–south lines into the natural south-easterly dip of the bedrock, to make the northern and western sides of an expansive lower, open area, has its parallel in the terrace of the Sphinx Temple and Khafre Valley Temple. Those temples sit in an open space defined by a linear cut into the bedrock immediately east of the Sphinx that left a ledge more than 88 m long.⁴⁴ Drill cores and other evidence suggest that at some point east of these temples, the bedrock drops again, to much deeper levels.⁴⁵

A similar large 90° cut was made into the natural dip of the bedrock layers to make the northern and western sides of the low, open area east of the KKT, but with two differences. Firstly, the bedrock cut east of the Sphinx, the deeper drop east of the Sphinx Temple, and the descent of the approach ramps into a deeper cut east of the Khafre Valley Temple, lie approximately on a line with the eastern escarpments of the Moqattam Formation to the north, and the Maadi Formation to the south. The eastern facades of these temples are about 50 m west of a line drawn from the north-eastern point of the Moqattam Formation outcrop near the Khufu causeway to the eastern edge of the Maadi Formation knoll, the Gebel el-Qibli. The depression east

of the KKT lies more than 150 m west of that line, and nearly 350 m west of the eastern end of the Wall of the Crow. Secondly, the cut east of the Sphinx left a flat terrace that builders filled with the Sphinx Temple and Khafre Valley Temple, whereas east of the KKT the cut descends step-wise into a deep depression.

Harbour basin?

Up to our 2009 season when we found the structures in the KKT-E, a functioning harbour east of the Menkaure Temple appeared to be as implausible as harbours fronting other valley temples.⁴⁶ Certain findings here, and in Dahshur South,⁴⁷ force us to reconsider the possibility that the Menkaure and Khentkaues valley complexes fronted onto basins that held water, at least seasonally.

The level at which we stopped clearing the sand filling the KKT-E depression, around 14.60 m asl, is very close to the average base level, 14.74, of Old Kingdom settlement in the Nile valley east of the Giza Plateau, as determined by archaeological exposures and core drilling during the AMBRIC waste water project in the late 1980s.⁴⁸ Those settlements would have stood on islands and levees above the inundation during the peak flood (August–September), when the floodwater reached 1.5 m average depth above the floodplain.⁴⁹

To reiterate, the results suggest that the bedrock descends in steps, like the bedrock exposed by the erosion channel, the Gully, under the north-eastern side of the lower stairway ramp. The drawing of the reconstructed complex (Fig. 15) shows in dashed lines two hypothetical bedrock steps based on borehole D, which stopped at a hard surface at elevation 14.54 m asl, and boreholes A and C, in front of the western terrace and lower stairway ramp, which hit a hard surface at elevations 13.54 and 13.63 m asl. Borehole B, the farthest east of the four, hit a hard surface at elevation 12.43 m asl, and again, this is close to our best estimates for the level of the Nile floodplain in the Old Kingdom.⁵⁰ The total depth of the basin below the level of the terrace, as determined by the auger B, is 4.07 m. It is possible that the bottom of the basin slopes or steps down even more deeply to the east.

The core samples from drill holes A and B and the material from a sondage near the bottom of the lower stairway ramp indicated that, under the immense accumulation of clean sand (29,858), and upon the basin bottom, lies a sandy, clay layer (30,861) with 'degraded mudbrick, pottery, and charcoal fragments; inclusions not present in 29,858'.⁵¹ As close as these probes were to the base of the terrace, the material could be from the erosion of the structures and the cultural material upon them.

In the drawing (Fig. 15) of the reconstructed arrangement in the KKT-E the dotted lines correspond to elevations 14.00 and 14.50 m above sea level,

again our best estimate for the highest water during the peak of the annual Nile flood in the early Old Kingdom. The bottom of the mud-brick retaining wall immediately east of the lower stairway ramp (see below) reaches elevation 15.60 m asl. The higher estimate (14.50) of the flood is more than a metre lower than this wall. The water at the estimated flood maximum would fill the basin to a depth of 2 to 1.5 m, again, the lower value being the average depth of the flood over the floodplain in the 19th century AD.

To receive floodwater, the basin would need a connection to the edge of the floodplain during inundation, to a water way connected to the Nile, or to the main Nile channel. Independent studies estimate that in the early Old Kingdom, the main channel or a subsidiary branch, flowed around 200 m east of the end of the Wall of the Crow,⁵² which is about 325 m east of our exposure of the Khentkaues valley complex, so the Nile or a tributary flowed more than 500 m east of the KKT-E basin. How this connection was made requires an assessment of the KKT-E basin with other evidence about the interface 4,500 years ago between the Giza monuments of the high desert, the HeG and the KKT settlements on the low desert, and the Nile and its floodplain. This assessment requires evaluation in another forum.



Fig. 17: Erosion reveals possible phases of the Southern Lateral Ramp. A lower sloping layer of crushed limestone (1) may be the earliest phase. A higher crushed limestone layer with a thick silt paving (2) is designated phase 4. The line between gray silt and marl render on the vertical face (3) marks the floor of a final phase 6

Lower terrace (2)

Workers augmented the bedrock shelf or terrace with a layer, 2.60 m thick, of crushed limestone mixed with Nile silt. They dumped this material against

the face of the bedrock shelf to extend it eastward and southward, and spread it out over the top to build the bedrock shelf slightly higher and even it out, creating a terrace along the western and northern sides of the basin.

The terrace slopes slightly from north to south, from 16.66 m asl near the north-western corner to 16.44 about 19 m to the south. The terrace shows a greater slope from west to east, from 16.60 m asl in the north-western corner to 16.29 around 8 m to the east.

It is compelling to think that the builders evened and augmented the bedrock terrace with limestone debris in the KKT-E as soon as they had the intention of creating the inverted L-shaped open terrace in the early phase of the settlement, when it was limited to Buildings I, J, K and L with the wide eastern doorway (see above). To ascend from the terrace to the doorway, the builders made the Southern Lateral Ramp (SLR) against the face of the bedrock drop. Erosion of the SLR and its ruins exposed its internal composition. We see in the core a sloping layer of crushed limestone and marl that may indicate an earlier build of this ramp when it was steeper and shorter (Fig. 17). Until we excavate the SLR further to ascertain this earliest phase, it remains uncertain.

In their phasing, Jones and Yeomans provisionally place this earlier phase of the SLR with phase 3 of the upper KKT settlement – which would be prior to Buildings I, J, K and L.⁵³ If the earlier phase of the SLR is real and belongs to phase 3, then the lower terrace must have already been levelled and extended with the crushed limestone in phase 3, which would imply the existence in phase 3 of the mud-brick retaining walls (30,848) that hold the limestone debris in place. Here we therefore describe these walls next in the KKT-E sequence.

Retaining walls (4)

In the north-western corner of the open, inverted L-shaped terrace, the builders placed mud-brick walls (30,848) into a 90° corner holding back the limestone debris. These walls probably extended further east and south (as reconstructed in Fig. 15), retaining the debris that augmented the northern and western parts of the terrace.

The walls were preserved in this corner because mud-brick debris from the collapse of the eastern and northern KKT enclosure walls along the edge of the higher town level shielded the north-western corner of the lower terrace from erosion. Also the lower stairway ramp (see below) held the retaining walls (30,848) and debris in place like a buttress (Fig. 1). At the north-western corner, with the limestone debris and retaining walls in place, the terrace extends 7.85 m from the upper bedrock ledge [28,849] on the west to the mud-brick retaining walls (30,848).

A wide and deep erosion channel (the Gully) cuts the terrace immediately

east of the lower ramp. The east-facing section of the Gully shows that the mud-brick retaining wall (30,848) extends vertically 90 cm, narrowing in thickness from 39 cm at the top to 21 cm at the bottom. This is not very substantial for a wall meant to retain limestone debris without the additional support of the lower stairway ramp, but we do see traces of the wall to the east along the northern side of the deeper depression.

‘Glacis’

For much of the 2009 season we thought that the fourth dynasty builders left the face of the crushed limestone accretion at a 30° slope on purpose, as a glacis (Fig. 1, Fig. 14). When Dan Jones found, after removing three later plaster floors, the mud-brick retaining walls (30,848), we considered that the walls extended further east and south, holding back the debris that augmented the northern and western parts of the terrace. It is possible that when these walls toppled, their mud-brick decayed and vanished, the limestone debris slumped, and subsequent forces of erosion shaved it into the very regular 30° slope down into the basin.

That this 30° slope results at least partly from erosion cannot be doubted, for it is flush with the higher eroded surface of the collapse of the mud-brick walls of the ramps and corridors (see below) built onto the terrace. On the other hand, the builders might indeed have left the limestone debris below the terrace at a slope as a purposeful skirt or glacis that descended deeper into the basin than the bottom of the terrace retaining wall (30,848). An intentional glacis may be indicated by the fact that the face of the bedrock underneath the crushed limestone, where we see it to the south, also slopes.

The composite isometric drawing of the KKT at the end of all building phases (Fig. 15), indicates this glacis at the base of the western side of the terrace. The slope would have helped protect the terrace from being undermined by water and by the weight of the architecture upon it.⁵⁴ We exposed this slope, intentional or otherwise, of the lower foundation down to elevation 15.00 m asl.

Layers showing in the lower slope

The eastern face of the slope through the foundation material shows two distinct layers (faintly discernible in Fig. 14).⁵⁵ The upper layer consists of more silt-free crushed limestone. It begins at a patch of exposed bedrock 1.50 m south of the southern side of the lower stairway ramp where it is 0.20 to 0.30 m thick. It thickens to 1.30 to the south over what appears to be a lower layer also composed of crushed limestone but mixed with more dark alluvial silt. This lower layer is about 1.50 m thick on the north near the lower stairway ramp, and thins to the south. Toward the sand filling the

basin, the material becomes more of a silt matrix rather than crushed limestone. On March 10, 2009, our workers scraped down the face of the ‘glacis’ which indicated that the lower, darker, silt matrix and the lighter, more purely crushed limestone of the upper band are distinct layers, and not just a surface layer, staining or patina.

The vague boundary between the two layers slopes down from north to south, which prompts us to wonder if the lower, darker, more silty layer indicates an early, lower ramp that ascended laterally from some level within the basin along the lower bedrock face to the terrace.

KKT-E and the early Upper Settlement (4)

It is compelling to think that the features comprising the KKT-E layout in its early phase offered access to the upper settlement in its earliest form. Our evidence suggests the early (phase 4) north–south layout was comprised of Buildings I, J, K and L, entered through the wide doorway fitted with a large wooden door, as indicated by the large jamb and limestone pivot socket, about 2.60 m west of the edge of the bedrock drop to the lower terrace (Fig. 9).

Link between lower terrace and upper town (4)

The north enclosure wall, bisected by an entrance, links the lower terrace of the KKT-E and the upper town that Selim Hassan excavated. Unfortunately, in the years since those excavations, the mud-brick walls at the north-eastern corner of the upper town almost completely eroded away, down to bare bedrock (Fig. 16). Therefore we cannot trace the structural or stratigraphic links between the substantial remains of the northern enclosure wall spanning the lower level of the KKT-E and its run to the west along the upper town.

Yeomans found indications further west that the western wall of Building I ran under the northern enclosure wall. But the patchy, scant remains here, down to centimetres, make it difficult to know to which building phase of the enclosure wall these traces belong. We believe that the large limestone threshold of a doorway opening through the north enclosure wall onto the north–south street between Buildings I/K and J/L dates to phase 4 (Fig. 8). But since this threshold now stands alone on bare bedrock we cannot be certain that the northern enclosure wall in the KKT-E is continuous and of same build as the northern enclosure wall of the upper town, though the same alignment indicates this is certainly possible. As noted, the builders seem to have planned the continuation of the northern enclosure wall when they quarried the bedrock for the eastern layout, because they left a protrusion of bedrock beyond the eastern limit of the upper town for the

foundation of the wall. Beyond this protrusion, on its run further east, the northern enclosure wall probably rests on the foundation of bedrock augmented by dumped limestone debris, but this is not certain.

Lower stairway ramp (4)

A ramp (32,426) provided access up to the terrace from the lower, open area or basin. The builders made the ramp from compact silty mud over compact crushed limestone up against the corner formed by the mud-brick walls (30,848) that retained the crushed limestone of the terrace. The lower ramp is 3.90 m long on the horizontal and around 2.10 m wide at the top. It descends from elevation 16.45 m asl, flaring out at the bottom to 3.15 m. The part that we cleared ascends 1.45 m at a slope of 20°. We did not find the base in the clean and wet sand filling the basin.

Two yellow, marl plaster lines running through the mud mass at an angle about 30° to the north–south line of the terrace mark a banister on the south-western side of the ramp. We have not excavated this side, which merges with the ‘glacis-like’ slope of silt and crushed limestone. It could be that to the south the silty render hides a retaining wall that holds the ramp in place, like the stony revetment (30,849) that forms the opposite, north-eastern side of the lower stairway ramp (Fig. 1). This revetment is built up against the northern section of the mud-brick retaining wall (30,848) that holds back the limestone debris, which debris extended the terrace over three steps in the bedrock that protrude from the base of the revetment. The erosion that cut the wide Gully exposed these steps and the revetment.

Yasin Hasan Abdalahi, the oldest and most gifted of our Qufti excavators, articulated three or four steps in the silty material at the top of the ramp. These steps are not regular, and may be partially an artefact of his excavation. The remainder of the steps, if they existed, wore away.

Southern Lateral Ramp (4)

The KKT-E builders created a lateral ramp upon the terrace that ascends from the south up to the north against the face of the bedrock [28,849]. People could ascend from the lower terrace to the wide eastern doorway into the upper settlement. Builders created this Southern Lateral Ramp (SLR) in a corridor between the bedrock face running north–south at the eastern edge of the upper town and a parallel mud-brick wall (29,904), 90 cm thick. They filled the corridor with crushed limestone to make an ascending floor.

During our 2008 season we recognised the SLR in the ‘mud mass’ banked against the bedrock ledge immediately to the east and south of the end of the Khentkaues causeway, but we did not free it from the eroded and tumbled mudbrick.⁵⁶ During 2009, Dan Jones supervised the excavation of two

phases of the SLR.

We see evidence of a possible older phase in the layers exposed by erosion through the fill of the SLR and through its eastern wall (29,904) (Fig. 17). Toward the northern top of the SLR slope, we discern two layers of crushed limestone, an upper one (29,912) with more silt that directly overlays a cleaner layer of crushed limestone and marl clay (29,897). The lower layer slopes up to its highest level just under the alluvial silt paving of the level platform at the top of the SLR. The upper layer (29,912) begins about 1.20 m south of the southern edge of the Khentkaues causeway opening. These two layers remain in direct contact for a distance of 1.80 m to the south. At a point 3 m south of the southern side of the causeway, the lower layer continues as a marl line or seam in the eroded cut through the SLR, and 3.52 m south of the southern side of the causeway the two layers separate, parted first by mud-brick fragments, and then by two courses of bricks laid either as headers or stretchers.⁵⁷

The crushed limestone layer and marl surface could mark the first roadbed of the SLR, as it sloped 14° over a horizontal distance of about 6.30 m (Fig. 17,1). The marl line and its slope end 1.14 m north of a doorway or passage from the terrace through the eastern wall of the SLR. It is possible the doorway functioned with the SLR in its earliest phase, at the base of the sloping bed marked by the lower crushed limestone layer (29,897).

Later builders lengthened the ramp to 11.20 m and raised it to the north to level off at a platform of compact silt (Fig. 17,2). Now the ramp rose 1.06 m at a slope around 11° in a corridor, 1.30 m wide, between the bedrock face on the west and a wall, 0.90 m wide, on the east. At the bottom the floor levels off near the doorway through the eastern wall. Jones and Yeoman relate this phase to the early phase of the upper settlement (see below). It is almost certain that the level corridor continues south (beyond the area we re-excavated) as far as the end of a corridor running west into the settlement between buildings K–L on the north and M on the south, which might indicate that building M also relates to this early phase.

Finally the ramp was raised again with a plaster surface upon a thin layer of crushed limestone that sloped by 8° to 10° (Fig. 17,3). If extrapolated, the line of this slope arrives to same level as the causeway threshold, but we believe this latest slope also levelled off at the surface of the previous platform. The SLR was raised and lengthened at the same time as the Northern Lateral Ramp (NLR, see below) was built.

Access into the early settlement (4)

The builders extended the SLR 1.18 m beyond the northern side of the eastern entrance into the upper town. They made a buttress-like back wall (29,040), plastered on its outer northern face, leaning in to retain the fill

between the corridor wall and the bedrock ledge. The sloping SLR floor ascended to a platform supported by the back wall, opposite the wide eastern doorway of the layout of Buildings I,J,K, and L (phase 4). Jones and Yeoman link this floor and platform to the earlier access into the settlement.⁵⁸

South of the platform, a jamb projects from the eastern corridor wall (29,904) to create a restriction, possibly a doorway, 1.05 m (2 cubits) wide, which made the platform into something like a vestibule. Between Buildings I and K, the eastern doorway with the large jamb and limestone pivot socket formed a second vestibule that extended 2.60 m (5 cubits) west of the bedrock edge. Anyone entering stepped up 16 cm over the bedrock edge from the platform at the top of the SLR into a slightly raised porch. The inner door would have opened outwards (to east) into the porch.

Beyond this doorway into the settlement, we find no evidence of an east–west street in the early phase (4) of the settlement, nor evidence that a western entrance existed between Buildings I and K.

The constructional phases of buildings I, J, K, and L need to be carefully investigated, but it appears that from the [eastern] entranceway in question one entered an open courtyard area bounded to the west by a western enclosure wall, to the north by buildings I and J, to the east by the eastern enclosure wall, and to the south by buildings K and L.⁵⁹

With this phasing, we cannot relate the early eastern entrance, 2.38 m wide, with the broad street, 5.20 m wide, further west between the northern causeway wall (31,108) and the southern town enclosure wall (31,028). As Jones and Yeomans integrate the phasing from the two areas, it is clear that part of the settlement did not yet exist when the broad eastern doorway was in use. In fact, it appears that a thick enclosure wall bounded the early settlement on the west.⁶⁰

At this point, people could also access the early settlement from two openings in the northern enclosure wall. In the upper settlement, the doorway, 2.04 m wide, with its large limestone threshold opened to the avenue between Buildings I and K on the west, and Building J and L on the east (see above). Because the mud-brick enclosure wall has been scoured away, down to bare bedrock, the limestone slabs that compose the threshold are all that remains of the wall and this doorway. Therefore we have lost stratigraphic relations that would secure its phasing, or that of the northern enclosure wall, as noted above.

The second northern access opened through the northern enclosure wall on the north of the KKT-E. The marl plaster line of the northern side of this access is clear in the ruins, with a single brick jamb at the northern end of the western side. But we have not yet articulated satisfactorily the structure of

the eastern side of the entrance. A single large brick on the northern end seems to form a jamb complementing that on the western side and forming a restricted doorway, about 70 cm wide. This entrance was filled and blocked when the accretion along the southern face of the northern enclosure wall was added (see below).

Causeway, (5ai) Northern Corridor, Stairs (5aii), and North Lateral Ramp (5c)

Although we have found no definitive stratigraphic link between the upper town and lower KKT-E approach, from what we know and infer about the building phases in the upper town (KKT) and the layout of the lower access in the KKT-E, we sense this is the stage when Khentkaues' builders extended the settlement to the west along the northern side of a long and narrow causeway to the queen's chapel, built into the south-eastern corner of her massive monument.

Eastern doorway changed to causeway entrance (5aii)

Because the causeway is narrower than the early doorway, the masons were required to add mud-bricks (28,842) to the southern side, covering over the doorjamb, and bringing the new face to the line of the southern wall of the causeway. They also laid a new floor that covered the limestone door socket. Unfortunately, any possible link of the brick addition (28,842) with the SLR is gone due to a later repair to the south side of the causeway entrance using the same small, burnt mud bricks that we see in the latest wall repairs of Building E and the Southern Enclosure Wall in Hanan Mahmoud's trench. Here the brown brick repair lines both sides of the causeway and extends around the outer corners with the Eastern Enclosure Wall.⁶¹



Fig. 18: The northern corridor (right) with floor level raised above the terrace (left). Worker in the background excavates the collapsed southern jamb just before the corridor turns south onto the Northern Lateral Ramp. The northern side of the corridor (right) is the face of an accretion added to the northern enclosure wall. A cache of pottery lay on the floor where the worker cleans in the foreground. View to the west

Northern corridor (5a_{ii})

So far, our reconstruction of the KKT-E building sequence would have the SLR alone on an open terrace. Builders next added walls to form a corridor on the north of the L-shaped terrace (Fig. 18). Jones and Yeomans relate this to the transformation of the upper settlement into the overall footprint that comes down to us from Selim Hassan's excavations and mapping: the KKT enclosure walls, the northern causeway wall across the north–south avenue between Buildings I and K and J and L, the underpass cut into the bedrock, the outer bounding walls of Building E, and probably the outer walls of Buildings A–D, F–H (and possibly Building m).⁶²

During this phase the doorway into the KKT-E through the northern enclosure wall was blocked. The access through the eastern wall (29,904) of the base of the SLR, near the base of its slope, was also blocked. It could have been about this time that the upper eastern entrance was narrowed and the causeway constructed with the addition of the brick lining (28,842) to the southern wall of the old entrance. Again, the stratigraphic link is gone because of the addition of the repair in small brown bricks of the late phase. The fact that the entrance-way in the eastern enclosure wall remained an access point for the causeway suggests that the deep open area, the basin, and the lower terrace were still required, and that they formed an integral

part of the complex.⁶³

The construction of the northern corridor on the lower level in the KKT-E was achieved by adding two mud-brick walls about one wide. One wall (29,050) runs from the back end of the SLR to the north for 9.10 m to end at an opening, 1 m wide; the second wall (29,047) makes a tight 90° turn to run east. When they abutted wall 29,050 up against the back retaining wall of the SLR (29,904), the eastern face of the wall 29,050 came 20 cm east of being flush with the eastern face of the eastern SLR corridor wall.

Accretion and rebuilds (5aii)

The second wall (29,047) runs east, parallel to the northern enclosure wall. By adding an accretion (29,057) on the southern face of the northern enclosure wall, the builders restricted the width of the corridor to around 1.60 m. This addition (29,057) appears to be

... a series of rebuilds. At the eastern end of our excavation of the corridor, the accretion is 67 cm thick, which, added to the thickness of the wall, here about 1.90 m, makes a total width of 2.57, nearly 5 cubits. Toward the east, people seem to have been struggling with the southern face of the Enclosure Wall bowing outward and collapsing. They mortared back onto the eastern face major chunks that had collapsed, with marl plaster faces turned inward. These add to the laminations we see in the horizontal erosion cut through the wall. In fact, Kasia Olchowska found the lower part of the last plastered face bellying out into the corridor, left in near-collapse before the upper part of the wall had toppled and filled the corridor with mudbrick debris.⁶⁴

Both walls and the corridor they define continue east beyond the limits of our excavations. In 2009, Olchowska excavated the corridor eastward 12.40 m from the corner where it turns south, or 13.85 m east of the higher bedrock ledge. We see the marl lines of the interior corridor walls continuing in the unexcavated mud-brick ruins for at least another 5 m eastwards.

After they built the northern walls, the builders raised the floor of the corridor. Over the length of our excavations, the latest floor level of the corridor slopes down slightly to the east, from 17.57 to 16.79 m asl, a drop of 0.98 m over 11 m. Along the north side, the floor of the corridor runs 0.97 m higher than the floor of the terrace on the west, and about 50 cm higher than the floor of the terrace at the eastern extent of our excavations. The difference is due to fact that the slope of the corridor floor is steeper than that of the terrace, which was left extending about 2 m from the base of the corridor wall (29,047) along the northern side. The western leg of the terrace extends 1.8 m from the base of the wall (20,050).

At some point after they had finished the corridor, the builders added broad jambs at western end of northern corridor, one on the north (30,856) against the accretion (29,057), the other (30,873) on the south against the northern face of the southern corridor wall (29,047). The jambs constricted the corridor to a width of 1.20 m.

The surfaces of the floors, walls and jambs of this phase were rendered with marl followed by a white lime wash.

Stairs (5aⁱⁱ)

Probably not long after making the raised corridor, builders added a stairway (30,832) descending 70 cm from the opening between the corridor walls (29,050 and 29,047) down to the floor level of the terrace (Fig. 1, Fig. 14, Fig. 18). A simple slope to the floor descends through a passage, 0.96 m wide and 1.06 m long, between the walls, and then six steps complete the descent to the terrace. The high end of the stairs abuts the base of the western corridor wall (29,050) and the northern side abuts the northern corridor wall (29,047). Plaster on the face of this wall (29,047) lips down onto the tops of the steps. The stairs measure 1.36 m long and 1.45 m wide. The steps range from 0.25 to 0.30 m wide, and 0.07 to 0.10 m high. A small banister, one brick (18 × 24 cm) wide, remains along the southern side of the topmost two steps.

Pottery on the stairs (5b)

Jones and Olchowska found repairs to the floors within the corridor, and resurfacing layers on the terrace at the base of the steps. Jones excavated a deposit of pottery on and against the stairs (30,829) that included beer jars, some of which were complete, miniature plates, and a fragment of a vat (type CD22). The pottery was ‘concentrated and dense around the immediate area of the steps and over them, lensing out toward the south and east’.⁶⁵ All of these ‘can be well dated to the fourth/fifth dynasty ... 1991 diagnostic pieces were found in total’ possibly deriving from 295 vessels, mostly miniatures.⁶⁶

The way the deposit covers the stairs suggests it might have been dumped all at once or over a very short time. The cache of votives is comparable to other such pottery caches that people dumped after ritual use outside funerary temples.⁶⁷

Northern Lateral Ramp (5c)

Initially, one could turn left at the top of the stairs into a chamber, 8.70 m

long and about one metre wide, that ended at the back retaining wall of the SLR. This may seem like mere dead space, dysfunctional for any room, but it fits the profile of long narrow magazines that we find in fourth dynasty temples and settlement buildings.⁶⁸ Late in the history of the KKT-E, builders converted this narrow room into a ramp that ascended from the north to the entrance of the causeway, a Northern Lateral Ramp (NLR) counterpart, if not exactly symmetrical, to the SLR.

Like the SLR, the NLR sloped up within a corridor, 1.42 m wide, between the marl-plastered vertical bedrock face [28,849] on the west and the parallel corridor wall (29,050), 1.01 m wide, on the east. For the NLR, the builders filled the long, narrow chamber with silty debris. We should note that the sections through this mass left by the 1932 probe trenches of Selim Hassan's workers showed no floors, only a rough bedrock surface at bottom. We might expect some floor for the earlier use of this space as a magazine, unless the NLR building followed quite soon after the creation of this corridor. It is also possible that this dumped debris includes mud-brick fragments from some structure that had been dismantled.

The surface of the ramp was bedded with crushed limestone, topped by a thick layer of alluvial silt, and then a paving of desert marl clay. We can still see, where a bedrock ledge slopes up to the south (Fig. 1, Fig. 14, Fig. 18), how the marl plaster (28,859), 4 to 7 cm thick on the vertical bedrock face [28,849] lips down onto the horizontal surface of the alluvial paving of the ledge. For widening the sloping NLR floor, the vertical bedrock face [28,849] was cut back to make this ledge (30,809), which slopes gently up to the south, widening from 8 to 45 cm, then narrowing again to 14 to 17 cm at a point about 2.10 m north of the northern edge of the causeway (Fig. 1, Fig. 14). The fill of the NLR corridor was later trenched out, partly for human burials, leaving the ledge (30,809) as testimony that the NLR floor had once sloped up to the causeway threshold.

The ledge shows a rise of 40 cm over a run of 8.41 m, giving a slope around 4° – much gentler than the SLR. As mentioned, the floor of the approach corridor itself slopes slightly from east to west, through the added jambs and into the turn south. The slightly greater slope of the NLR begins just inside the doorway at the stop of the stairs, which, by this time, may have been transformed by wear and deposits into a ramp.

It was likely at this time that the surface of the SLR was raised and lengthened to reduce its slope 8 to 10° to increase the symmetry of two ramps. At this point the interior west wall of the SLR corridor was re-plastered with a thick coat that lipped down as a thick re-plastering of the floor (Fig. 17). Now the corridor measured 1.25 m wide between the marl render, 16 cm thick, on the bedrock face and the render on the western face of the eastern corridor wall.

We imagine people accessed the NLR via the doorway at the top of the

stairs, in which case it is hard to imagine that they did not clear away the pottery, if, as our current phasing would have it, this pottery had been strewn about before the NLR came into existence. This point needs further inquiry. On the other hand, is it possible people no longer used the stairs, and instead entered from the east through the raised corridor? The wide doorjambs at the western end of the corridor, before its turn south onto the NLR, marked the entrance to the NLR. If the pottery that practically covered the stairs dates stratigraphically after the creation of the NLR, could the pottery have been tossed out of the magazine before the builders filled it with debris to make the NLR?

Causeway and corridor: parallel to Menkaure?

On its run to the east, the northern corridor ranges 1.58 to 1.64 m wide for the length we have excavated between its southern wall and the inner accretion on the northern enclosure wall. This is practically the same width as the Khentkaues causeway. We might see the NLR and the northern corridor as a continuation of the causeway passage in the late phase of the KKT-E approach. This continuation of the causeway as a corridor that turns north and then east around the basin bears some similarity to the continuation of the Menkaure causeway as a corridor, 1.55 to 1.60 m wide, that turned south and then east around the valley temple in its first phase, completed, so we infer, by Shepseskaf. Reisner had reason to mention that the eastward addition of the corridor onto front of the temple might have extended at least 70 m east.⁶⁹

Pottery in the approach corridor (5c)

Olchowska found another cache of pottery (given feature numbers 30,840 and 30,845) in the northern corridor toward the eastern limit of our 2009 excavations. Jones and Olchowska see reasons why ‘this deposit appears stratigraphically later than the above-mentioned pottery assemblage’ on and beside the stairs.⁷⁰ The corridor cache lay directly upon the marl paving (30,871) that covered the corridor floor all the way west to the NLR bedrock ledge. The thick mud-brick collapse (29,925) of the corridor walls lay directly above the pottery.

Wodzińska determined that the pottery fragments that Olchowska excavated in the corridor derive from 493 vessels, and consist mostly of miniature plates and jars, beer jars, large serving plates, tall and low stands, a single red carinated bowl with rounded shoulders, and seven fragments of flat bread trays.⁷¹ Wodzińska notes, citing Rzeuska⁷² that tall stands and flay trays could serve as offering tables. With one possible exception, the corridor pottery, like that on the stairs, dates from the fourth to the fifth dynasties.

The possible exception 'is a hemispherical bowl with trimmed base. Its shape resembles Middle Kingdom hemispherical cups'.⁷³



Fig. 19: Yasin Hasan Abdalahi excavates the sheet collapse of the southern jamb at the western end of the northern corridor. The jamb collapsed as one piece directly onto the corridor floor. The base of the jamb remains in place to the left of his hand. The corner of the northern jamb is at the far right of the photograph. The floor to the west was raised and the collapsed piece used as a step up for a short time before the entire eastern approach fell into ruin

Abandonment (6)

In the KKT-E we can track stratigraphically the dereliction, repairs, abandonment and burying of the architecture to an extent no longer possible in the upper town after Selim Hassan excavated the buildings down to the occupation phases, and after the forces of erosion scoured the buildings in the 76 years since Hassan excavated.

Initial collapse (6a)

Jones and Olchowska found the sheet-collapse (30,857) of the southern wide jamb at the western end of the northern corridor, one of the earliest signs of the end of building and maintenance of the KKT-E complex (Fig. 19). Like the pottery in the corridor, this single piece collapsed directly onto the marl plaster of the floor. It appears that people used the fallen piece, where it lay neatly between the base of the jambs, as a step up onto a raised floor to the west.⁷⁴

So people continued to use the corridor even as they put up with its

structural failings, as also indicated by the multiple builds and the bowing out of the accretion of the southern face of the northern enclosure wall forming the southern side of the corridor. ‘This was possibly due to windblown and dumped deposits building up against the outside’ of the enclosure wall.⁷⁵

Dereliction of the KKT-E (6b)

Sometime within this late phase, as the KKT-E architecture became derelict, a curious gypsum-lined, long rectangular box (30,863) was made into a cut [30,867] through the blocking structure in the entrance through the northern enclosure wall. The feature resembles a grave, but it appears to have never received an interment. A pit was also cut [30,804] in the floor at the base of the NLR and used as a hearth, leaving residues of pottery, charcoal, and bits of copper. With this feature, one gets the impression of squatters keeping warm or working tools in what had been a sacral passage.

When the catastrophic collapse happened, the mud-brick and silt from the walls came down directly onto the marl paving of the corridor floor, with only the sheet collapse (30,857) of the southern jamb and the pottery deposit in the northern corridor (30,840/30,845) intervening between collapsed material and the floor (Fig. 20).⁷⁶



Fig. 20: Enormous sand deposit covering silty ruins of the northern corridor wall and northern enclosure wall. The walls collapsed almost directly on the corridor floor and (right) onto the lower terrace. No sand intervenes between the collapsed material and the floors, nor within the collapse. Erosion shaved the mud-brick ruins into an even slope down into the basin. View to the east

The cause appears to be the quite sudden collapse of the Northern enclosure Wall, which probably knocked down the east west wall of the corridor in a domino effect. No sand or debris was found between the collapsed material and the floor surfaces on which it was situated, indicating this was a very sudden event.⁷⁷

On the western side, it was probably the collapse of the KKT eastern enclosure wall along the higher edge of the bedrock face that left the substantial deposit of collapsed mud-brick debris upon the SLR. Whether this occurred at the same time as the collapse of the NLR, we do not know.⁷⁸

Rebuilding probably occurred to parts of the eastern enclosure wall in the last (Phase 7) occupation of the upper town. One stretch of a later rebuild remains standing above the northern corridor and the bedrock ledge of the NLR (Fig. 1, Fig. 14, Fig. 18). Yeomans expressed the idea that this stretch is a modern rebuild, because it contains modern inclusions (paper and so on).⁷⁹ However, the style of building is very much like that of the phase 7 southern enclosure wall in the causeway trench south of Building e (see above), with outer casings of small sandy, silt bricks and sandy fill in between. It is possible that the modern inclusions blew into interstices, because this stretch of wall has stood above the surface over all the years since Selim Hassan's excavations. If this segment of wall dates to the late phase of occupation, the original eastern enclosure wall had been denuded down to a few millimetres of bricks. If the rebuild dates to the small brown brick reoccupation phase (7), the wall of which it was a part could also have collapsed to the east, onto the NLR corridor.

We have not yet fully excavated this corridor, but trenches probably dug by Selim Hassan's workers show layers of degraded mud-bricks mixed with sand (29,899).⁸⁰ The deposits in this corridor are made more complex by the fact that parts of the original fill were dug out before Selim Hassan's excavations for burying the dead. Our team excavated one human skeleton that may date to the 8th century AD, based on a coin found nearby.⁸¹

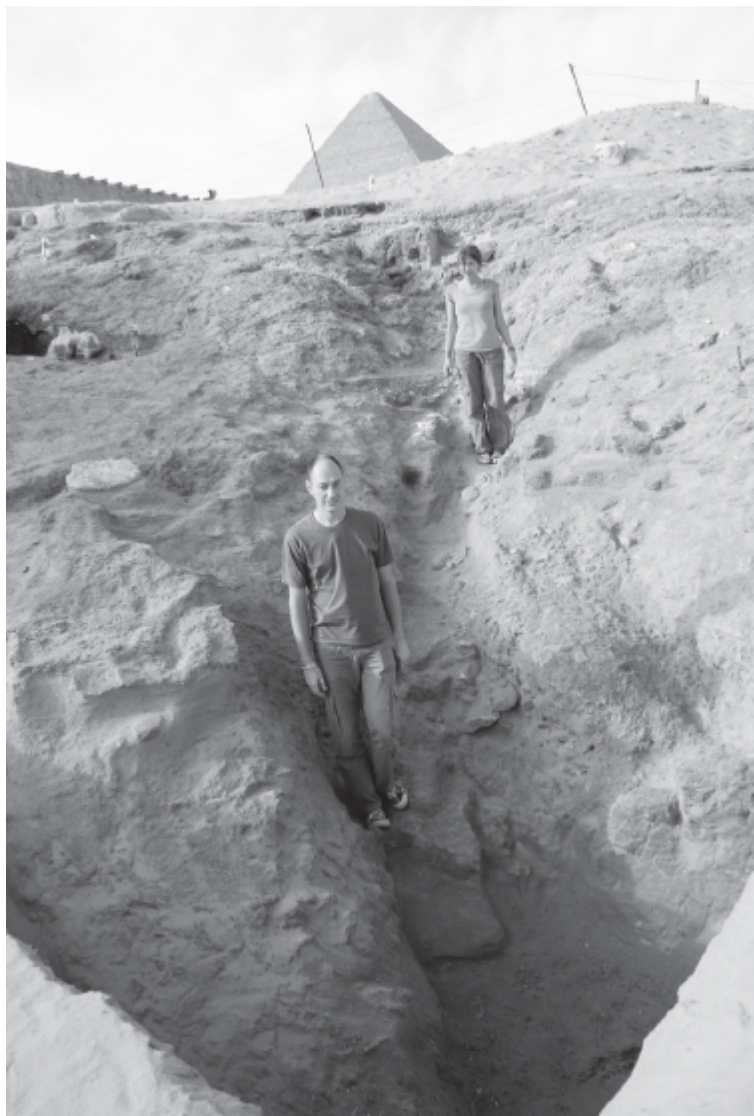


Fig. 21: Kasia Olchowska and Daniel Jones descend the gully, shortly after workers cleared it of sand. Water running from an opening built into the original northern enclosure wall cut this channel. Under the washed sand and limestone debris, the gully had cut through the collapsed mud-brick, the original walls, and down to the bedrock. Jones stands on bedrock steps. In the mass to the left he excavated the lower stairway ramp

Where we lack such obvious later cuts into the original collapse (as in the corridor on the northern side), we found little evidence indicating that architecture had been left to deteriorate gradually for a long period – for example, there was a lack of intercalated wind-blown sand and then silt from the erosion of the mud brick walls. Rather, we found mud-brick collapse

directly upon the latest floor.

Erosion, Gully, and sand (6b)

The collapse of the major mud-brick walls left a large amount of debris sloping down into the basin (Fig. 20). The rather thin mud-brick retaining walls of the terrace slumped or collapsed, except where the lower stairway ramp held them in place in the north-west corner, spilling the crushed limestone that the builders had used to level and build out the bedrock shelf.

Natural forces – perhaps a combination of rain, wind, and sand – abraded the mud-brick collapse, the top of what remained of the major walls and the limestone foundation debris into a flush, regular, glacis-like plane that sloped at 30° (Fig. 14, Fig. 20).

During an occasion of especially heavy, sustained rain, or a period of several such episodes, water accumulated around the wide entrance (29,068) through the northern enclosure wall in the KKT-E, and, helped by the cut [30,867] for the gypsum-lined burial box (30,863), streamed down the slope, cutting a deep channel or Gully [30,826], 0.90 to 1.30 m wide and 0.50 to 0.70 m deep, all the way through the architecture and down to the stepped bedrock (Fig. 21). The Gully fanned out just east of the retaining wall of the lower stairway ramp (Fig. 13). Sand with irregular limestone pieces, crushed limestone and deteriorated mud-brick (30,837) filled the Gully before clean sand completely covered it. The fill perhaps indicates occasional flushes of water through the limestone foundation debris and mud-brick ruins during the time environmental conditions began to stabilise and allow the sand to accumulate.

These changes prevented any further use of the KKT-E architecture. At least in this area due east of the Khentkaues causeway, access to the lower, open terrace, and from there to the SLR and NLR, was no longer possible.

Sand (6b)

We might be inclined to take the sand (29,858) that covered these ruins for granted. But the magnitude of this deposit, the fact that we find no sand on the floors under the collapsed walls, the fact that it lies directly upon ruins abraded so severely into an even, flush, plane, and its magnitude and thickness, makes the sand an important part of the environmental history of this site and the larger region (Fig. 20). It is also important to the cultural history of this site, to the extent that it had begun to blanket the area prior to the reoccupation (phase 7) of the upper town.

So consistent was the clean sand, from the top of its mounding that covered the site to the deepest fill of the basin, that we could assign it a

single stratigraphic feature number (29,858). As we removed the sand down and away from the 30° slope of the SLR ruins directly below the opening of the Khentkaues causeway in 2008, we found ‘ceramics dating from the late Old Kingdom, or perhaps even First Intermediate Period’ including a complete bread mould strikingly different from the many bread moulds to which we were accustomed from twenty years of excavation at the fourth dynasty Heit el-Ghurab settlement.⁸²

Reoccupation (7)

Phase 7 takes in the reoccupation of the upper town after a period of abandonment.⁸³ We can assign no features in the KKT-E to this phase. Like much of the connection between the upper town and the lower approach, this is largely an inference made in lieu of stratigraphic connections, which were lost with the scouring away of much of the upper town exactly along the eastern bedrock drop.

Perhaps most salient is the lack of any repairs in the KKT-E using the small brown bricks so characteristic of the very latest builds in the upper town, including the eastern end of the causeway, the southern enclosure wall in Hanan Mahmoud's trench and Building E. These small brown bricks repair the very mouth of the causeway, which was a remodelling of the wider eastern doorway, and this late repair work turns the corner as a patching at the base of the KKT eastern enclosure wall. Yet we see nothing of this repair, or any such bricks, anywhere in the KKT-E structures.

According to our inferred phasing, following a period of abandonment, people reoccupied the upper town (KKT) when the KKT-E lateral ramps, terrace, and stairs had fallen into ruin. We suggest that when they returned, sand had already filled the deep basin and buried much of the mud-brick ruins in the KKT-E to the upper edge of the bedrock between the upper town and the lower approach structures in KKT-E and to the very threshold of the causeway.

During our 2008 season, Lehner and Olchowska excavated a trench extending east with a northern section line on the axis of the causeway, extending a section Yeomans had started the previous season through the deposits filling the causeway mouth, which included sheet collapse of the small brown brick repairs.⁸⁴ The very worn, compact silt of the platform immediately in front of the causeway threshold at the top of the SLR showed up right away in the extension of this trench. The platform surface probably remained a step up into the causeway during the reoccupation. But to the east and spreading to either side over the clean sand we found only silty deposits cast up from pre-2007 trenches and pits that had been dug into the ruins. We found no pathway or trodden surface leading to the mouth of the causeway. If such a path existed over the clean sand, the pre-2007 excavations

obliterated any traces.

III. The match to Menkaure

When was the KKT abandoned and the lower eastern approach left to collapse? When did people return and rebuild with the small brown sandy bricks? Selim Hassan's excavations, the limitations of his publication, and the erosion of the site since he excavated, reduce severely the archaeological record. However, another sequence exists close by, in the MVT. From his excavations in Menkaure's Pyramid Temple and Valley Temple a hundred years ago, George Reisner left a more detailed published record, which he arranged into phases, and we can begin to compare that with our phasing of the KVT.

The Menkaure upper temple record

Reisner found evidence that heavy stone-working came to a rather abrupt end. Workers had yet to raise the walls of the valley temple upon megalithic limestone foundation and core-wall blocks. In the upper temple they had only completed the granite casing in the portico and offering room and the corridor (13) leading to the inner temple. They had barely started dressing flat the sixteen granite courses casing the pyramid.⁸⁵

Reisner made a compelling case that Menkaure's successor, Shepseskaf ordered the preparation of the white-washed mud-brick casing that covered the limestone core blocks and granite casings already laid, to provide a finish to the walls in the upper temple and to build the valley temple in mud-brick upon the massive limestone block foundation. Fragments that Reisner found in the portico of the upper temple belong to a stela of Shepseskaf dated to the year after the first cattle count, which he reconstructed as *ir-n-f mmn [w-f n i] t-f ... nšwt-bity [r'-mn-kw]*, and translated as 'He made it as a monument for his father, King of Upper and Lower Egypt, [Menkauwra]'.⁸⁶ Shepseskaf's workforces must have been very busy with brick construction; Reisner believed they were responsible for building five temples in the Menkaure Pyramid complex including chapels for the three subsidiary pyramids.⁸⁷

A later generation cared enough about Menkaure's memorial to bring the upper temple up-to-date as regards what was thought to be required at that time for a king's memorial temple. The building of a screen wall of mud-brick was ordered that closed off the portico from the open court, thereby achieving a stricter separation of the inner from the outer temple, which we find in fifth and sixth dynasty pyramid temples. Stone-workers returned to build an actual inner temple into the space between the back of the upper temple and eastern base of the pyramid. Inside a doorway (25) at the end of

the northern corridor (space 13),⁸⁸ they created a small square antechamber with a single pillar, a feature that we otherwise find situated in the route to the offering hall, for the first time in Niuserre's pyramid temple at Abusir. To the west they framed in and roofed a series of magazines with locally quarried limestone, but never finished dressing down the walls. To the south, they made but never finished a hall of pillars. They built these elements of the inner temple around a core offering chapel of Tura limestone upon a platform on line with the pyramid central axis. This platform and chapel had been built, Reisner thought, soon after Menkaure died.⁸⁹

Reisner inferred that those who built the inner temple of local nummulitic limestone removed a mud-brick and Tura limestone inner temple that Shepseskaf's workmen may have built. We do not know who ordered the Tura limestone structure. Based on 41 fragments also found in the portico of the front temple and from two possible limestone stelae bearing decrees, one of which possibly bore the Horus name of Merenre, Reisner suggested this sixth dynasty king commissioned the inner stone temple.⁹⁰

This hybrid upper pyramid temple of Menkaure must have been used because Reisner found in Room 22 a total of eight clay seal impressions, from sealing boxes or, most probably, from a door.⁹¹ Room 22 is a small antechamber between a magazine (24) and a short corridor (21) leading to the western end of the corridor (13) to the doorway of the small square antechamber and inner temple. In later times the doorway into Room 22 was blocked. It is compelling to think that those who opened the string lock on the antechamber door tossed the sealings to the south, into the dead space of this magazine. The impressions bear the names of Menkaure, Niuserre, Izezi, Teti and Pepy I.⁹² To these we might add Merenre, whose name was possibly found on a stela fragment from the upper temple, and Pepy II, named on the stela from the valley temple. The list suggests service in Menkaure's temples over a span of 220 to 320 years. If there is a gap in this limited series, it is widest in the early fifth dynasty (Userkaf, Sahure, Neferirkare, Shepseskare, Neferefre, with Menkauhor and Unas also missing). We wonder how many more sealing fragments might have been found with our retrieval methods today.

Reisner said of the doorway (25) into the small square antechamber: 'During the last period of occupation the doorways right and left to the magazines were closed with rough walls of crude brick, but doorway 25 to the west was open leading to the inner temple of limestone'.⁹³ He found a sunken pathway worn in the antechamber floor around the right of the pillar, worn by those who walked through to sloping passage room (28) leading to the inner temple.

The Menkaure valley temple record

Knowledge of the sequence in the Menkaure upper temple is required for understanding the phases in the KKT in broader context. We must pay even closer attention to the sequence in the valley temple, in close proximity with the southern end of the KKT – in fact, on the other side of a (shared?) broad ramp (Fig. 3, Fig. 4).

The first step of Shepseskaf's builders in the MVT was to spread limestone debris – Reisner called it gravel – to fill in between the huge limestone blocks and build up the foundation, just as builders did over the bedrock to raise and extend the lower terrace in the KKT-E.⁹⁴

In the MVT, Reisner found a very stark separation between three major periods of temple building, with two intervening general phases of occupation and an occupation within and around the second temple. The phasing of the settlement is not entirely clear, in part because Reisner did not excavate the whole temple stratigraphically nor phase by phase, rather in early July 1908 he excavated the deposits in the area of the portico, sanctuary and western magazines, apparently going through all phases (layers) at once. Reisner suspended work for seventeen months as he worked in Nubia and Palestine, returning to the MVT in December 1909, continuing in the western and southern parts, and beginning a strip on the north. In January he realised an open court lay in between, and his workers cleared houses in the layers above it. He now worked at the same time in the north-west quarter and in a strip along the southern corridor, where he dug down to trace the foundations. From February to mid-March Reisner's men cleared the southern court, and to conserve mud-brick walls, 'the sand from the southern half of the court was thrown into the rooms in the southern part of the inner temple'. As they worked eastward, they dumped sand back into the southern court. They then turned north, to excavate the vestibule and magazines to the north of it. They spent last two weeks in early April excavating the north-eastern part of the court.⁹⁵ So no-one, including Reisner himself, has ever seen the entire temple area exposed at once. His map must be a compilation of successive exposures of the different parts.

Although he did not excavate stratigraphically, Reisner reconstructed, post-excavation, the three major phases which he termed I, II and III.⁹⁶ Were we to phase it today, we would start with the substrata before Menkaure's stone foundation. Reisner designated as phase I the colossal limestone blocks of the foundation and beginning of two courses of the western and northern temple walls. He designated the first mud-brick temple as phase II.

II.1. The earliest occupation probably included houses in the southern end of the ante-town that Reisner said 'may safely be ascribed to the time of the early use of the temple ...'.⁹⁷ These lay under 'houses' that Reisner dated to the same time as those built on the floor debris of the court. Hassan, who completed the excavation of this spot, also recognised two periods of domestic structures, with earlier walls laid directly onto the original floor.⁹⁸

We might expect that because these structures lay outside the temple, they might be somewhat earlier than walls built on the floor of the court, which 'belong to the time when the funerary service was maintained in the first temple'.⁹⁹

Reisner's multi-phase map of the MVT¹⁰⁰ and Hassan's map of the MVT attached to the KKT (adapted as Fig. 3, Fig. 4 here) attempt to show all phases at once, making it harder to sense the layout of a given phase. Also, Reisner stated that the walls upon the floor of the court were badly preserved. So it is with these caveats that we say the structures of this phase, more complete in the southern end of the court, look more like storage bins than houses.

II.2. Reisner give a probable date for the construction of a mud-brick screen wall and doorway across the portico, like that in the upper temple, as the fifth dynasty.¹⁰¹

He does not designate as a separate phase a layer of debris of decayed mud and sand, on the floor, but this layer is an important stratigraphic fact. The layer accumulated to a depth of 20 cm in the centre of the court and sloped up as high as 40 and 70 cm on the sides. This debris contained 'fragments of stone vessels and shattered statues'.

II.3. 'Thus all walls founded on this debris had been built after the first serious plundering of the older temple ...' Reisner added that the walls of this phase were 'the best preserved of all'.¹⁰² It has been said that the settlement inside the MVT was a disorganised 'sacred slum',¹⁰³ but this is not entirely true. Reisner distinguished five residences, or apartments in a fairly orthogonal, bonded complex of rooms in the southern side of the court. In contrast, the occupants appear to have reserved the northern side of the court for 'circular granaries and single rooms or pairs of rooms',¹⁰⁴ and these may in fact have been storage bins.

II.4–6. Reisner then designates as phases II.4–6 various alterations in the western storerooms, a blocking in a door from the vestibule to the northern corridor and the construction of rooms over the magazines south of the vestibule.

II.7. Reisner designates as a distinct phase 'the plundering of the magazines; the removal of vessels and statues to be broken up continued through the rest of the time of both the first and second temples'.¹⁰⁵

II.8. Reisner sees as a distinct phase the 'gradual decay of the temple, the decay and fall of the roofs, the deposition of debris from 40–100 cm in the court; the sanctuary apparently kept clear'.¹⁰⁶

II.9. Next comes an event that bears importance for the wider archaeological record in the KKT and the general region. Sudden, intense rain sent a stream down the northern side of the Menkaure causeway that ripped through the middle of the western wall right behind the sanctuary

where Menkaure's builders left a gap in the monolithic core blocks. This 'gully through the sanctuary' sent water and artefacts to a pool in the court. This may have been a time of transition between moister and drier climates, a time that saw both accumulating sand, and episodic strong rain that produced powerful desert flooding (see below).

III. The second mud-brick temple was built upon the ruins of the first. This rebuilding involved, for the most part, a new portal or vestibule, a new portico and offering room, and new outer walls.¹⁰⁷ Tellingly, the builders added a glacis-like, rubble embankment, 1 to 2 m high, along the base of the western and northern walls, the sides vulnerable to flash flooding.

Reisner said he found no trace of an eastern wall for the second temple. Selim Hassan describes finding the blocked entrance through the eastern wall of the temple,¹⁰⁸ and this must be the first temple, but he offers no real clarification – he did not speak of phases. But Hassan did find the eastern limit of the temple/town in both phases – the reinforced eastern boundary wall of the annex, or ante-town as we call it, which he called the Valley Temple of Khentkaues, built along the edge of a 2 m drop (Fig. 4). The phasing of the ante-town with respect to the first and second temples may yet be possible to establish from the records that Reisner and Hassan left.¹⁰⁹

III.10. Rooms were built within the second temple enclosure 'partly over the denuded walls of the first temple, and partly over the debris-filled magazines, and partly over the older structures in the court'.¹¹⁰ Reisner also indicates that the phase III.10 structures were built about one metre over the floors of Phase II.3. Some of the III.10 walls were built above the exterior corridor, which had become dysfunctional since phase II.8, when roofs collapsed.

The settlement during the period of the second temple, that is 'the town as it stood when abandoned', was badly eroded, especially to the south. So we receive the impression of having only fragments of this vernacular architecture, which, in Reisner's all-phase map, are orthogonal and oriented with the temple to the cardinal directions, while the photos give more the impression of a village-like warren.¹¹¹

III.11. The phase III.10 settlement structures and the second temple fell into ruin.¹¹²

Phase matching: KKT and the Menkaure Temple records

We can suggest matches between the combined KKT and KKT-E phasing of Jones and Yeomans with Reisner's phasing of the settlement and architectural sequence in the MVT. We begin with the latest phases and move roughly back through time.

Sixth dynasty return (KKT 7 and MVT III.10)

A preliminary assessment dates the pottery from the KKT-E stairs, terrace and corridor to the late fourth or early fifth dynasty. The one caveat is a hemispherical bowl with trimmed base that resembles Middle Kingdom hemispherical cups in the cache from the corridor.¹¹³

Pending the determination of the date of the latter fragment, Wodzińska's 'ceramics dating from the late Old Kingdom, or perhaps even First Intermediate Period', from the sand that covered the already collapsed ramps suggests that the KKT-E approach fell out of use by the late Old Kingdom, phase 7, when walls in the KKT-E were repaired and rebuilt with the small brown, slightly reddish bricks of sandy silt. To reiterate, we found none of these bricks in any phase of the KKT-E structures.

After the phase II.8–9 flood (see below), the MVT lay in utter ruins. Reisner said that a surface of decay formed.¹¹⁴ We might expect that the upper town in the KKT was abandoned about this time.

It would follow that the return and rebuilding in the KKT phase 7 corresponds to the rebuilding in the MVT, Reisner's phase III.10. Both the second temple builders and the builders of phase 7 in the KKT created walls on roughly the same alignments of the older walls. Mud-bricks are not very reliable for dating;¹¹⁵ however, as these phase 7 bricks are so distinct from earlier phases, we have to feel disappointment when Reisner addresses himself specifically to mud-bricks, gives a rough mean for the sizes used in the Shepseskaf work ($40 \times 20 \times 12$ cm), but says nothing about the sizes in the second phase valley temple.¹¹⁶

It is probable that the second MVT was built at some point during the sixth dynasty. Reisner was not certain of that point. He suggested it was in the reign of Merenre, who, he guessed, might have rebuilt the inner part of the upper temple in local limestone. Between stela fragments and sealings, the textual records from the Menkaure temples include a mention of all kings of the sixth dynasty. Reisner noted that the upper temple and the valley temple might have fallen into ruin at different times. It is compelling to see the MVT restored about the time of Pepy II's decree that Reisner found near the first vestibule and dated, probably, to the 31st occasion and so sometime in the last third of his reign.¹¹⁷

Abandonment (KKT 6b and MVT II.8–9)

Prior to the sixth dynasty restoration, and after the flash flood, the MVT lay in ruin. Roofs of corridors, magazines and storerooms had collapsed, and debris partly filled rooms. Reisner says the 'corridors became filled with drift sand', which is exactly what we do not see in the KKT-E (Fig. 20). 'The temple appears to have lain in complete ruin. A surface of decay was

formed, and it may well be doubted whether even a pretence was made of maintaining the temple service'.¹¹⁸ This might correspond to the abandonment of the KKT.

In this case, Reisner's phase II.8–9 corresponds to the KKT (+KKT-E) phase 6, 'localized activity and abandonment'.¹¹⁹ This may have been a time of transition between moister and drier conditions of the local environment and climate, when sand had begun accumulating, yet episodic hard rain could cause wadi flooding. Just before a wadi stream breached the western temple MVT wall, a metre of sand- and water-borne debris had accumulated against the northern and western walls. 'At this time, or at any rate before the restoration of the temple, the accumulation of sand and debris on the western, northern, and southern sides of the temple had reached such a height that the causeway corridor and exterior corridor were buried to just above their roofs'.¹²⁰

So, too, sand may have accumulated against the northern enclosure wall and corridor in the KKT-E. And in the KKT-E, it appears as if water eventually breached a gap in the wide access through the enclosure wall. The stream cut a wide and deep gully through the mud-brick ruins down to bedrock (Fig. 21). These stresses may have begun before the catastrophic collapse of the enclosure wall. This may be why people blocked the access and built an accretion across the entire southern face of this wall in phase 6a (Fig. 16, Fig. 18).

Perhaps about the same time, concern for sudden rains prompted the inhabitants to block with a similar accretion the original eastern entrance of first MVT. Hassan's discovery of this doorway came through the same process of rain causing pressure:

... heavy rains caused part of the wall to collapse at this place, and the damage has revealed the fact that an entrance did actually exist here, and has also explained why we were unable to trace it. It seems that the Queen's architect bricked up the doorway in a normal manner ... he next thickened the wall by building against it another wall, two bricks thick, which entirely hid the first alteration. The rain water having percolated down between the original wall and its thinner facing, caused the latter to collapse, and thus revealed the vertical joint between the original doorjambs and the brick work with which the entrance was blocked.¹²¹

The events in the KKT and MVT may reflect regional climate change in the middle Old Kingdom. We have evidence that forces of erosion scoured down to waist or ankle level the mud-brick settlement ruins of the HeG site before the end of the Old Kingdom.¹²²

Judith Bunbury relates the work of Kuper and Kröpelin¹²³ and Kröpelin et al.¹²⁴ in the Western Desert to her work with missions from Saqqara to the

Sudan, which shows that ‘desertification of the Sahara swept southwards producing Sahel and then desert conditions in Egypt ... evidence from the north of Egypt suggests that the early Old Kingdom was the time when the Sahara started to become a wilderness and the Nile floodplain less wild and the Nile focused into a few large channels like those of today’¹²⁵

Most pertinent for the KKT and MVT location on the northern shoulder of the main wadi between the Moqqatam and Maadi Formation outcrops (Fig. 2), during the Saharan Wet Period, grasses, shrubs and other plant life stabilised the wadis by holding and absorbing the rainwater in the soil. When the monsoonal rain belt began to move south, hinterland vegetation collapsed, and the now more intermittent rains ‘destabilized the denuded wadi sands, washing them into the flood plain’¹²⁶ through a series of events like those that cut through the MVT and KKT-E. Following their abandonment, those who returned in the sixth dynasty may have experienced much drier and sandier conditions than the people who first occupied these settlements.

Alterations and plundering (KKT 5c, MVT II.4–7)

The alterations of these phases are of too small a scale in both the KKT and MVT to permit correlations. Reisner's phase II.7 involves a ‘plundering of the magazines and removal of vessels and statues to be broken up’.¹²⁷ Jones and Yeomans phases 5-c include the dispersal of pottery in the KKT-E northern corridor, which could also reflect a clearing out of magazines, or just a disposal of used offering vessels, but their phase 5c also includes building the NLR as an alternative route to the Khentkaues causeway. We might want to see the NLR as earlier than the pottery dump. Phase 5b sees the accumulation of pottery on and around the stairs.

Main occupation (KKT 5b; MVT II.2–3)

Because of Hassan's excavations and the subsequent erosion we have so far found only scant deposits from the long-term occupation of the KKT. We can only hypothesise that the KKT was occupied during the period when the MVT was occupied.

From Reisner's published record, it seems that the long-term occupation in the first temple included two stable periods interspersed with two periods of looting. The later of these (II.7) happened as the first temple was becoming derelict, and just before the disastrous flood. But the first looting happened just prior to the best preserved, and rather orderly, bonded complex of rooms within the temple during phase II.3.

To reiterate, Reisner does not designate as a separate phase the sandy layer of mud-brick debris that contained fragments of stone vessels and

shattered statues. Upon this layer were built at least five residences, or apartments in a fairly orthogonal, bonded complex of rooms in the southern side of the court and a series of granaries and bins in the northern court (II.3). When did occupants produce these layers?

Below the debris layer Reisner found the earliest houses in the first temple, and we have to imagine that these, or certainly the ones on the floor of the terrace in front of the temple, date to the reign of Shepseskaf or shortly thereafter, based on the narrative that he had the first temple built. Reisner dates the complete pottery vessels retrieved from the debris layer under room 302 in the southern court to the fifth dynasty.¹²⁸

It seems to have been Reisner's impression, from all his direct experience with the archaeological and textual record of Menkaure's temples, that this king's cult suffered most from the temple occupants themselves during the fifth dynasty, and then, perhaps, the early sixth dynasty. The early fifth dynasty kings, Userkaf, Sahure, Neferirkare, Shepseskare, and Neferefre, are missing in the – albeit limited – series of sealings that Reisner found in the upper temple. So Reisner concluded that the temple service was maintained in some degree during the reigns of Niuserre and Izezi, but that the whole pyramid temple was neglected like the valley temple during the fifth dynasty. But in the sixth dynasty, both temples became the object of a certain amount of pious attention.¹²⁹

Perhaps it seems counter-intuitive to us that the very people privileged to live within the MVT were those who began to plunder the magazines and break up Menkaure's statues. Perhaps the royal house had turned its attention away from Menkaure's temples, soon after Shepseskaf completed them, as the administration built monuments and settled people at South Saqqara, North Saqqara and Abusir.¹³⁰

The phase II.3 formal complex of bonded rooms on the layer of plunder and debris might signal the return of royal attention, perhaps in the reign of Niuserre, a guess based on the sealings in the upper temple. Is it possible that it was already Niuserre who ordered the construction of the inner temple against the base of Menkaure's pyramid?

Layout of KKT (KKT5, MVT II.1)

When was the KKT laid out and built? Keeping in mind that our matching of the KKT and MVT sequences is for now a series of hypotheses, we have just suggested above that Reisner's MVT phases II.2–3 might coincide with the reigns of Userkaf to Neferefre, which, according to a recent chronology, spanned 31 years.¹³¹ We could envisage the creation of the KKT during that time, but we tend to think of the settlement as built and inhabited during the late fourth/early fifth dynasty. Between the end of Menkaure's reign and the beginning of Userkaf's, this recent chronology gives us seven years.

We encounter the problem of just where to fit Khentkaues I into the sequence, both historical and archaeological. In terms of the site, we see this as an archaeological and architectural problem, as much a genealogical, chronological, or historical issue. Do we have to imagine Shepseskaf's workmen building the five mud-brick pyramid temples in the Menkaure complex, and (the same workforce?) building the Khentkaues monument and town within this four- to seven-year time frame? When could the late fourth dynasty (or early fifth dynasty?) Egyptians have expended so much labour, building in both stone and mud-brick to create the monumental Khentkaues tomb and town?¹³²

With this question foremost, it seems that for now we can at best suggest that the construction of the KKT occurred during the earliest settlement in the MVT, soon after Shepseskaf finished the upper and lower Menkaure temples and the chapels of pyramids GIII-a, b, c for three of his queens. But just here our hypotheses encounter a difficulty concerning Menkaure's pyramid town and Khentkaues I's 'valley temple'.

Early in the MVT sequence, people built rooms (houses?) on the floor of the court at 'the time when funerary service was maintained in the first temple'. Reisner could map only scant traces; the walls embedded in the debris were 'crushed and difficult to follow'.¹³³ Both Reisner and Hassan saw two periods of houses close against the southern end of the exterior eastern front of the temple, including early walls built on the floor. Near the eastern limit of his excavations in 1910, Reisner thought this 'pyramid city of Mycerinus' extended eastward for perhaps 70 m from the eastern face of the temple because the boundary of the southern exterior corridor continued east beyond the limit of his excavation.¹³⁴ In 1932, Selim Hassan extended the excavations just a little further east and found the eastern boundary wall of an enclosed annex, 15 m wide and 41 m long, grafted onto the eastern facade of MVT. This ante-town, as we have called it, included a second vestibule, a court, and domestic structures to the south. The eastern wall appears from Hassan's plan to have been strengthened a few times by thick accretions. Hassan thought this was a valley temple for Khentkaues, but it is assuredly an extension of the MVT town and temple.

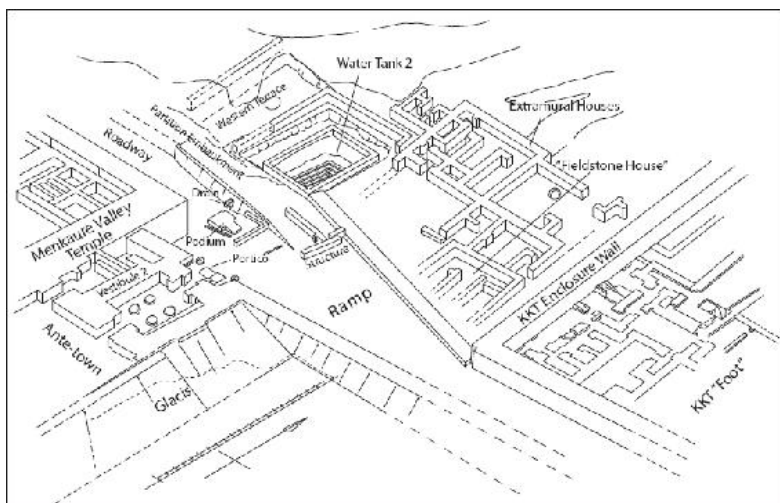


Fig. 23: Reconstruction of Area KKT-AI with the broad ramp ascending between the KKT-F (the foot of the L-shaped town) and the MVT

the [Khentkaues] Pyramid-chapel due east, and then turns at right angles, continuing in a southerly direction, where it merges into a wide, brick-paved causeway running up from the valley. This latter causeway leads directly to the spot where the basin is located. It was clear then, that the [Khentkaues valley] temple must lie in the immediate vicinity.¹³⁷

Hassan's 'wide, brick-paved causeway' is a broad ramp, widening from 7 to 12 m as it ascends from the east between the southern end of the KKT and the northern wall of the ante-town addition to the MVT (Fig. 22, Fig. 23), parts of which we have cleared and mapped from 2005 to 2009.¹³⁸ But so far, no connection has been found between this ramp and the Khentkaues causeway, which does not turn south, rather leads straight east to the lateral ramps we found in the last few years ascending from a lower terrace and basin (Fig. 4). The broader road along the southern side of the Khentkaues causeway opens into the walled court with the bedrock-cut basin in the southern foot of the KKT, and affords no throughway to the south. Hassan's plan shows the thick enclosure wall completely enclosing the southern side of the road, the western side of the southern KKT foot, and turning to run east to encompass the southern end of the KKT. According to Hassan's plan, and what we so far know from our survey, the most direct access between Khentkaues' monument and the addition onto the front of the MVT would have been to exit the opening through the enclosure wall south-east of the upper chapel, walk over or around the mound of quarry debris (Fig. 3), and to cross the broad ramp (which had a low shoulder wall) to the portico and vestibule in the eastern extension of the MVT, the ante-town, as we call it. Of course, we are lacking the south-eastern corner of the KKT. Before we

speculate on possible connections between the KKT and MVT in this area, we need to return to the question of Menkaure's pyramid town.

When we had cleared 21 m of the length of the eastern enclosure wall of the ante-town wall in 2005 and 2008, we found that it drops steeply. Lehner called it a glacis (Fig. 22).¹³⁹ As far as we could trace its lower part in a cramped corner with the curve of the modern road around the modern cemetery, the wall drops two metres, to 16.00 m asl from the floor level of the vestibule at 18.00 m asl. This is comparable to the 1.89 m drop in level from the eastern KKT causeway entrance to the lower KKT-E terrace. The terrace on which the MVT vestibule, court and domestic structures were later built must have fronted the MVT, at least already in its first mud-brick phase (II). Otherwise anyone exiting the front doorway would have fallen two metres! It is possible that already Menkaure's builders extended the MVT foundation from the platform of megalithic limestone blocks using massive layers of quarry debris. However, this debris is probably held in place by the glacis-like eastern mud-brick wall, similar to the way the northern wall of the ramp retains limestone debris (see below).

From its early phase, then, one approached the MVT either from the south, via the external corridor, whence openings existed to the exterior terrace and into the interior magazine corridor south of the first vestibule, or from this broad ramp on the north. Like the Khafre Valley Temple, the approach to the MVT consisted of two ways, a northern and a southern. The two ways are also comparable to the two ways approaching the Khentkaues complex, at the end of its building sequence, one via the northern corridor and lateral ramp (NLR), another through the southern corridor and lateral ramp (SLR). The double access bears similarities to the sixth dynasty valley temple of Pepy II.¹⁴⁰

In spite of our own nomenclature, the 'ante-town' terrace leaves only 18.5 m width on the south, and about 12 m width on the north, for a 'pyramid city of Menkaure'.¹⁴¹ The interior court offered additional, but limited, space for domestic structures and we could think that this is one reason for the spread of rooms inside the temple. Again, we know very little of the early phase II.1 layout on or near the temple floor. The II.3 layout was comprised of about five apartments to the south, and bins and granaries to the north. Do these five 'houses' comprise a pyramid town or city? On the other hand, the KKT itself contains only ten to thirteen 'houses'. In fact the bins, granaries to the north, and possibly even the apartments in the southern court, may have emphasised claims to shares in temple offerings by stakeholders who lived elsewhere, a situation similar to the small chambers, bins, stelae and house models found in the secondary enclosure around the pyramid of Wedjebten in the sixth dynasty pyramid complex of Pepy II.¹⁴²

Where else could the settlement of Menkaure's pyramid town have been? It is possible we have yet to see settlement to the south under deep sand so

far unexcavated. The low floor level of the day and proximity to the main wadi channel, as well as the way the causeway corridor closes off the southern side of the temple, causes us to doubt this possibility.¹⁴³ To the north and west people built a few houses east of a deep masonry-lined basin (the ‘Water Tank 2’, see Fig. 22, Fig. 23), and we know at least one more of these extra-mural houses was built into the slope of quarry debris to the west of the tank.¹⁴⁴ But these were probably built late in the history of the site.¹⁴⁵

The sum total of domestic rooms within and next to the MVT is quite small in comparison with the sophisticated, planned settlement that lay just 35 m east and 5 m north of the MVT – the southern foot of the KKT. As of phase 5, around the corner, on the northern side of a huge pile of quarry debris, lay the planned, modular series of buildings along the Khentkaues causeway. Because they do line that causeway, we have assumed that here lived ‘priests’ of her cult. How did the people occupying this expansive, planned pyramid town of Khentkaues interact with those occupying, or using, the considerably more modest structures occupying the walled space of the MVT and the narrow terrace in front?

Here we might note that, as far as we know, the expanse of the KKT contained only eight or nine small granaries, including three on the upper, western terrace in the foot (KKT-F) of the town, one in Building B (Room 34), and four in Building E (Room 79),¹⁴⁶ and this was one of the later modifications at the end of the main occupation sequence (5c) in Building E.¹⁴⁷ The court of the MVT and the southern end of the annex were crowded with small chambers, bins, and granaries during the middle occupation phase (II.3), and we sense that this was true as well in the earliest (II.1) and last (III.10) phases of occupation from the all-too scant traces. From Reisner's multi-phase map,¹⁴⁸ we count from a very incomplete record somewhere near 25 bins and silos of the first occupation (II.1) of the court, 11 bins and silos, excluding the rooms of the five apartments, during phase II.3, and 37 chambers, bins and silos (counting nearly all chambers shown) during phase III.10. Again, we might compare this situation to that in the secondary enclosure around the pyramid of Queen Wedjetben in the Pepy II pyramid complex. We might consider the MVT as the grain reserve for a larger pyramid community that included the KKT.

This question may relate to the development of the ‘two separate parts’ of this pyramid community¹⁴⁹ during the time of Shepseskaf's mud-brick works, or even earlier, when heavy stone-working was in progress to the west.

The first MVT of Shepseskaf and Buildings I, J, K and L (KKT4, MVT II)

In our phasing of the KKT, we have to imagine that some amount of time

had to pass between the construction and use of the phase 4 complex, Buildings I, J, K and L, and the demolition of part of the original western enclosure wall of that complex and the modification of the eastern doorway for the construction of the Khentkaues causeway and town. In our hypothesised match of the KKT and MVT phases, we are left with the suggestion that the phase 4 KKT complex functioned during the time of building the first MVT and the other mud-brick works of Shepseskaf. This ties to the MVT the early eastern and southern parts of what became the KKT.

Technically and strictly speaking, we have no hard evidence for the purpose of the early, phase 4, eastern layout of Buildings I, J, K L (and possibly M), but it is highly probable that the occupants of these buildings served either the memorial foundation of Menkaure, whose valley temple is located around 60 m to the south-west, or Khentkaues

I, whose foundation at some point took over the colossal bedrock block 150 m to the west. Or could they have served both?

If the original western enclosure wall of the phase 4 Buildings I, J, K and L extended 25 to 30 m south of Buildings K and L, it would have come to within 48 m of the MVT. So,

its closest neighbor is the Valley Temple of Menkaure. During the process of completing Menkaure's Valley Temple in mud brick by his successor Shepseskaf, is it possible that the [early phase 4] settlement was built at the same time to house the personnel responsible for maintaining the mortuary cult of Menkaure? The ... basin in KKT-E could have been the access point for goods from the east required for this function to reach the settlement.¹⁵⁰

A rectangular layout reaching this far south, possibly including Building M, would have extended to the left front of the MVT, making this an L-shaped footprint around the south-eastern corner of the very rectangular, massive mound of quarry debris that rises 9 m high between the MVT and northern leg of the KKT (Fig. 3).

Building with heavy stonework (KKT4, MVT I)

As an alternative, could Buildings I, J, K and L have already been occupied during Reisner's Phase I, when Menkaure's workmen were still undertaking considerable stone-work that involved large-scale quarrying to the west, and importing Tura limestone and granite to the east? Administrators of these works might have occupied the phase 4 complex, possibly including Building M and other structures further south, situated as they were along the edge of the eastern approach, possibly at the head of harbours.¹⁵¹ If Buildings I, J, K and L stood already during the time of major stone-work,

they would precede both the first functioning MVT and the KKT.

Three generations of fourth dynasty workers quarried stone at the south-easterly slope of the Moqqatam Formation for the pyramids, tombs and temples in a great circular area, 400 m in diameter (Fig. 24). Through the years, the quarrymen carefully reserved at the centre a gigantic bedrock block, 45 m square and 10 m tall. This block became the pedestal of the Khentkaues memorial monument.¹⁵² Workers never exploited the south-eastern quadrant between Khentkaues and the Sphinx as deeply as the other three quadrants. So they left a row of other large, isolated rectangular blocks of bedrock that later Egyptians used for rock-cut tombs lining the northern side of the south-east quadrant, which the KKT would occupy.¹⁵³ Between these bedrock blocks and the massive mound of quarry debris, they cleared a bedrock plane, like a broad boulevard, 30 m wide, sloping for 150 m gently east. This plane became the foundation of the Khentkaues Town.

We can only speculate why the quarrymen reserved this block at centre to the height of the original, natural plateau surface. To isolate the block from where it thrust forward from its attachment to the SE quarry quadrant, workers cut a 6 m wide corridor along the northern side. At this point they must have intended the gigantic block to serve as a monumental superstructure, and this intended use of the block and of the quarried boulevard must go together. We note this quarrying is some distance from what was probably the main quarry for the Menkaure Pyramid, which opens as a discrete ‘hole’ due south-east of that pyramid and its subsidiary pyramids.¹⁵⁴



Fig. 24: The ‘circle of quarrying’ with the Khentkaues monument at centre, superimposed on an excerpt from a Quickbird Satellite Sensor Image of the

Giza Pyramids Plateau, taken in February 2002, Copyright 2007 Digital Globe. The 'horseshoe' quarry, in the north-western quadrant, is probably the main quarry, up to 30 m deep, for the Khufu Pyramid, which extended south into the south-western quadrant. The KKT and MVT occupy the south-eastern quadrant, where the layers dipped low into the wadi. The fourth dynasty quarry workers never exploited the north-eastern quadrant so deeply, leaving rectangular bedrock blocks used as tombs from the fifth dynasty. Quarry workers cut back to the north the southern line of this quadrant, clearing a bedrock plane that became the foundation of the KKT. Recent excavations have revealed the quarry north of the Khafre causeway is only about 2.5 to 3 m deeper than the Khafre causeway. The modern cemetery fills the mouth of the wadi between the Wall of the Crow (lower right) and the KKT and MVT

By the time the authorities ordered the isolation of the bedrock block and clearance of the broad strip east of the Khentkaues pedestal all the way east to the drop in bedrock levels at the KKT-E, they probably intended that strip as a platform for a town attached to a great pious foundation. The early complex of Buildings I, J, K and L lies at the eastern end of the strip, exactly along the edge of the vertical drop to the lower terrace (see below). The wide eastern doorway that opened in the centre of the phase 4 early layout (see above) is positioned, like the causeway that later restricted this access, in line with the spot that became the granite entrance door into Khentkaues I's chapel, built into the south-eastern corner of the massive bedrock pedestal, 150 m up the slope of the bedrock boulevard to the west.

The point here is that we can hardly envisage Khentkaues' builders positioning her gigantic tomb and its chapel to align with the doorway into the mud-brick Buildings I, J, K and L because the bedrock podium and boulevard are the result of many years, maybe decades, of quarrying. So we would think Building I, J, K and L came later. And yet, if we assign the phase 4 layout to the administration of building the MVT, especially the stone working phase (I), it implies the Khentkaues monument was well on its way, or finished earlier than, or concurrently with, work on Menkaure's pyramid complex.

So we consider that the early layout of Buildings I, J, K and L served for state-sanctioned work on both the Menkaure and Khentkaues complexes. We sense that major works of quarrying and terracing the limestone bedrock, hauling in granite from Aswan, cutting and setting stone for monumental superstructures, chapels, false doors, casings and door jambs was over by the time Shepseskaf completed Menkaure's upper temple and valley temple, queens' chapels and causeway in mud-brick, and perhaps as well when the town attached to the Khentkaues I memorial was built.

Khentkaues' workers brought to her monument very large, granite slabs weighing tens of tons for the huge false doors in the inner room of her

chapel, multi-ton granite beams to line her descending passage and to stand as jambs of her outer chapel. They also brought in tons of Tura-quality limestone from the eastern quarries for casing her superstructure (evidence indicates they cased both the podium and the mastaba). The quarrymen created an east-facing yawning gap in the south-eastern corner of the bedrock pedestal in order to introduce these large granite beams (Fig. 1). The broad boulevard of flat bedrock sloping gently straight up to the west, possibly from the edge of a harbour, is the most probable route. To access this route from much lower levels to the east, the haulers would need to cross the vertical bedrock drop. The lower terrace and early SLR are too narrow for hauling stone of such sizes and quantities. They might use a temporary debris-ramp, but if Buildings I, J, K and L already stood in some form, those who off-loaded and hauled the stone would have had to go round those mud-brick structures. An entryway on the north to a track way between the quarry and these structures might work, but the most convenient access was where the bedrock dipped lowest.

As we noted, the upper edge of the vertical bedrock drop in the KKT-E, and the entire broad bedrock platform of the KKT, slopes down by about 6° to the south-east (Fig. 14). We lose the connection between the KKT-E and the area east of the MVT under the embankment of a modern road that curves around the modern cemetery (Fig. 24). But it is likely that a common construction access existed just here, where the bedrock dips helpfully low as it slopes down toward the main channel of the wadi between the Moqattam and Maadi Formation outcrops.

Unfortunately, most of this spot lies under the modern cemetery and road. Just to the west, we have cleared and mapped the monumental ramp that Hassan called a 'causeway' (Fig. 22, Fig. 23)¹⁵⁵ We see in cuts through this ramp that it is composed of accretions, like construction ramps elsewhere at Giza, and we believe it may have served for the introduction of exotic stone for the pyramids and temples of Menkaure. When stone-working stopped, the ramp was paved several times over what must have been a considerable period (Reisner's II.1 to III.10) with alluvial and marl clay, as it served to access the MVT at the northeast corner of that temple, and continued as a roadway west passing the northern side of the MVT.¹⁵⁶ Our 2009 Trench C at the south-western corner of the KKT enclosure wall, just where it turns east (Fig. 22), indicates the upper paving layers post-date the south-eastern corner of the mud-brick enclosure wall of the KTT. We need to excavate lower to ascertain if underlying layers of the ramp are stratigraphically earlier. (The 2009 probe was dangerously below our cut into the road embankment, and the scores of horse and camel riders passing above limited the time and space in which we could work here).

If Khentkaues I's builders used this ramp (in its early construction phase), or generally the low south-eastern part of the site, for bringing in heavy stone, they would have to proceed west and then turn north (left) to navigate

around the immense mound of quarry debris that was already piled high during the major quarry works between the MVT and the boulevard east of Khentkaues (Fig. 3, Fig. 24). The early, phase 4, complex of Buildings I, J, K and L left space between its western enclosure wall and the base of the debris mound, space later taken up by the westward expansion of the KKT southern foot onto the higher terrace. It is also possible haulers proceeded straight west on the roadway at the top of the ramp, passing the mound to approach the queen's chapel from the south. Or, they may have diverted granite and Tura limestone from holding yards near the Menkaure pyramid complex, some distance to the south-west, if the two monuments were under construction at the same time, or, perhaps as stone-working was winding down or had stopped on Menkaure's structures.

Buildings I, J, K and L, possibly M and any contemporary buildings in the missing south-eastern corner of the settlement, that is to say, the early north-south layout, would have been positioned to the north of this monumental ramp and the lowest south-eastern access into the whole area. It is compelling to see this early layout as an administrative centre for the major stone-working to the west. These accommodations would have been within the building zone, near its eastern access point, and just far enough west of the dust and din of the continuing major stone-working.

It is rather noteworthy that while Menkaure's pyramid complex, with four pyramids, two temples begun in megalithic masonry, and a monumental stone causeway foundation, exceeds in stonework the colossal monument of Khentkaues I, the work forces never completed Menkaure's complex,¹⁵⁷ but all evidence indicates they did complete the Khentkaues monument.¹⁵⁸ Could they have finished the Khentkaues I monument before the end of Menkaure's reign? This is one of three possibilities: before, during or after. If after, do we need to fit Khentkaues stone works into the four to seven years between Menkaure and Userkaf, or consider it part of tomb building, albeit at a higher order of magnitude, that still went on at Giza in the fifth dynasty?¹⁵⁹

We might allow ourselves to speculate whether the major quarrying and stone-working was concurrent for both Menkaure and Khentkaues I, which would have to put the beginning of construction for the Khentkaues I monument in the reign of Menkaure, just as we might envisage the major mud-brick works for both complexes in the reign of Shepseskaf.

A combined pyramid town?

According to the narrative so far reconstructed from text and archaeology, Menkaure's son and successor, Shepseskaf, finished his father's temples in mud-brick even as he transferred stone-workers to South Saqqara for building his own memorial in the form of a gigantic mastaba, with elements

similar to the Khentkaues complex.¹⁶⁰ Given the seven years between the reigns of Menkaure and Userkaf, and the four or five years that Shepseskaf was on the throne, how much time could have passed between Shepseskaf's mud-brick work on the Menkaure temples and the layout and building of the phase 5 Khentkaues Town?

Subsequent to stone-work stopping on their respective monuments (around the same time?), Menkaure's complex received an enclosure wall around the pyramid, five mud-brick temples and a causeway. Khentkaues received a mud-brick causeway, an elaborate well-planned town and an enclosure wall around her tomb and town. Were it not for orientations, we might conclude both these extensive mud-bricks works were done together, after large-scale stone-working had ended. This is the implication of matching the KKT phase 5 with MVT phase II.1.

While we recognise that mud-bricks may not be securely diagnostic of date, we have been impressed at the similarity of the mud-brick ascribed to Shepseskaf and that in the KKT. In 2004 Mansour Boraik, then Chief Inspector of the Giza Pyramids, exposed several patches of the remains of the mud-brick walls of the Menkaure causeway, midway between the upper temple and the valley temple. In 2005, when we began to map the western enclosure wall of the KKT foot, we were struck by the fact that the same dark, dense alluvial silt seemed to have been used for bricks of about the same size in these two structures.

Reisner wrote that Shepseskaf's bricks are in the size range 34 to 41 cm long, 16 to 20 cm wide, and 9 to 12 cm thick, with the most common size 40 × 20 × 12 cm.¹⁶¹ He also noted that such bricks were used in the screen wall across the portico in Menkaure's upper temple, which he dated to the fifth dynasty, and he noted such bricks are found in mastabas of the Giza cemetery, but that smaller sizes are more usual in the cemeteries. Bricks of the original KKT southern enclosure wall in the causeway trench opposite Building E range from 34 to 37 cm long and about 19 cm wide. Further east, in 2005, Pieter Collet mapped bricks of the same wall 40+ cm long and 17 cm wide.

Ashraf Abd el-Aziz has compiled over several years a typology and database of his measurements and descriptions of mud-bricks at a number of sites in Egypt and at Giza, including the HeG and KKT sites. He sees his Nile Clay Brick-A as common to the Shepseskaf brickwork on the Menkaure complex and in the KKT:

Nile Clay Brick-A: This type is an alluvial brick but it stands out from the other mudbricks because of its very dense, black, alluvial clay ... It is the main brick type used to build the enclosure walls of the tomb complex of Khentkawes, the enclosure walls of the valley temple of Menkaure and it was one of the main brick types in the funerary temple of Menkaure and Khentkawes Town. Perhaps most

of this work relates to the Shepseskaf period ... The brick size varies from 36–38 cm long × 16–19 cm wide × 10–12 cm thick, to 40–42 cm long × 20–23 cm wide × 12–13 cm thick.¹⁶²

This point needs further investigation. The similarity may be especially strong between the Shepseskaf brickwork and the enclosure wall around the KKT and around the Khentkaues monument. Again, we have the impression that major mud-brick works in both the KKT and the MVT followed after the cessation of major stone-working, witnessed by the fact, among others, that the enclosure wall around the Khentkaues monument, like that around the town, is composed of these large mud-bricks except for a stretch formed in reserved bedrock along the eastern side of the monument. We have to consider that two such large-scale mud-brick building projects next to one another are bound to produce bricks of similar size within a four- or five-year period, when builders may well have used the same moulds, supply lines from the valley floor and brick-making yards.

However, two aspects give the MVT and the KKT the appearance of conjoined, but separate, layouts. First, on the overall map it is striking how the MVT (like the pyramids and their upper temples) aligns to the cardinal directions (Fig. 3). In contrast, the colossal Khentkaues monument itself, the broad bedrock plane running 150 m east, the vertical bedrock drop in level between the KKT and the KKT-E, and the ramps, walls, corridors and lower terrace in the KKT-E are all orientated markedly west of true north by about 6° (like the whole HeG site and the Wall of the Crow). We should note that phase 4 Buildings I, J, K and L shared this west of north orientation (of quarries and vernacular structures?), which was maintained through all subsequent phases of the KKT.

The different orientations probably result from the surveyors projecting building lines off datum lines from two different stone data, the foundations and beginning of the core walls in megalithic masonry for the MVT, and the quarry channels that separated large blocks of bedrock in the case of the Khentkaues tomb and town.

Second, as of now, we see no direct, formal passage north to south between the KKT and the MVT. However, the broad ramp in the interface between the KKT and MVT may provide an indirect link from the east.

The link of the interface ramp

It is the broad ramp in the interface between the KKT and MVT (our Area KKT-AI) that links together the two layouts with their different orientations (Fig. 22, Fig. 23). Specifically, the southern wall of the ramp is orientated slightly south-west to north-east, about 7° south of due west, an orientation shared with the northern face of the ante-town and the portico entrance into the second vestibule (Fig. 3, Fig. 4). The southern wall of the ramp is

therefore very close to perpendicular to the KKT western enclosure wall, which runs about 6° west of north. This may be an indication that the KKT and the ante-town terrace were planned and built together. The southern wall of the ramp and the KKT were laid out on the same grid.

At its western end, the southern wall of the ramp merges with the mass of mud-brick forming the eastern wall of the ante-town and its possible accretions. It looks like the southern ramp wall abuts the eastern ante-town wall, but we have not yet carefully examined the brick patterns to ascertain this relationship.

Let us remember that the narrow terrace (18.5 to 12 m wide), and the ramp ascending to it must have been required from the beginning of the MVT. Menkaure's workmen probably brought in the limestone blocks for the foundation and walls from local quarries to the west,¹⁶³ but they would have eventually needed materials from the east, and they certainly need Nile alluvial silt during Shepseskaf's mud-brick building phase. A ramp was required then, and also after Shepseskaf's workers finished, because they erected the temple on that high foundation platform, after they filled in the interstices and augmented it with limestone debris.¹⁶⁴ They extended the platform east of the MVT as a terrace. At the eastern edge of this terrace the surface drops 2 m (possibly as a glacis) directly below the enclosure wall of the later annex (Fig. 22, Fig. 23). While we cannot say where the raised, southern external corridor debouches further east, this ramp must have been required on the north side from the time of the first MVT.

We have reason to believe that the northern and southern walls of the ramp rose only half a metre or so from the latest roadbed.¹⁶⁵ In Trench A, through the fill of the erosion channel and perpendicular to the northern side of the ramp (Fig. 22), Mike House found that the northern shoulder wall is simply a moulding in the top of the limestone debris that makes up the massive foundation of the Ramp. In Trench E, which Hanan Mahmoud excavated across the ramp, she found, under the later roadbed, an earlier northern shoulder wall, 1.02 to 1.48 m south, indicating the ramp was once narrower, but already the builders basically moulded the low wall in the debris of the foundation.¹⁶⁶

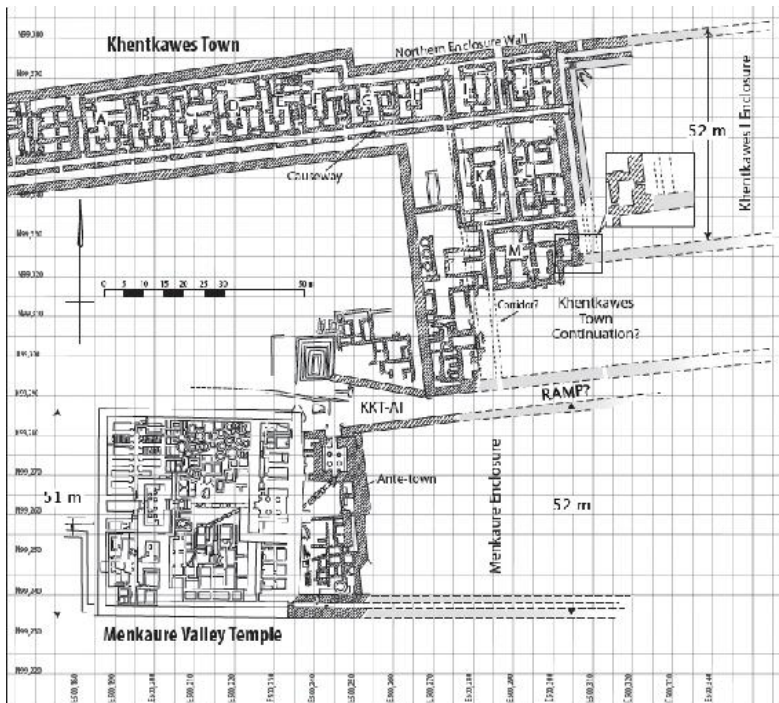


Fig. 25: Map of the KKT and MVT, with projections of walls suggesting lower enclosures, possibly for harbours, and the broad ramp in area KKT-AI

In contrast, in 2009 where Hanan Mahmoud sunk a deep probe at the southern end of Trench E, she found that the southern wall of the ramp, more than 1.55 m thick, is founded at elevation 15.92 m asl, 1.94 m deeper than the roadbed of the ramp, while the northern face is rendered with marl plaster for a depth of only 55 cm. This great depth indicates the wall, built of alluvial mud-bricks, served from the beginning of the earliest phase of the ramp as a retaining wall for the limestone debris of the ramp foundation. The southern wall spans the height between a lower basin or enclosure and terrace east of the MVT, making a corner with the eastern wall and ‘glacis’ of the ante-town (Fig. 22, Fig. 23).¹⁶⁷

Mike House, Kate Liska and James Taylor excavated ‘Trench’ C at the exact southern corner of the KKT enclosure wall, where the northern wall of the ramp could have met the enclosure wall if the erosion channel, the ‘Cut’, had not truncated it (Fig. 22).¹⁶⁸ The section given by the Cut shows that the builders laid down silty floor layers (31,020 and 31,022) upon a limestone debris layer (32,026) that is probably the same layer as the foundation of the ramp on the other side of the erosion channel. Here this limestone debris forms the foundation for a buttress-like projection built against the southern face of the southern KKT enclosure wall, which the excavators could free for

only 1.50 m to the east.¹⁶⁹ The main part of the KKT enclosure wall is founded lower. We need to excavate further to ascertain whether the builders simply moulded the debris at different elevations for the wall and the ramp foundation, as indicated in Trench A, that is to say, whether the ramp and the KKT enclosure wall were part of the same debris-moulding mud-brick construction process.

To summarise:

- the northern wall of the ramp in the interface between the KKT and MVT was built to the same orientation as the enclosure wall of the southern foot of the KKT;
- the ramp was required to ascend to the terrace along the façade of the MVT in its earliest phase, and so was part of that building phase;
- Shepseskaf's workers must have built the ramp as they completed the MVT (phase II.1), perhaps modifying an earlier construction ramp;
- a workforce must have built the KKT to its final dimensions (expanding the phase 4 layout) at about the same time, or very close in time (phase 5).

Harbour dyad: two enclosures?

The ramp between them notwithstanding, what we see so far of the footprint of the KKT and the MVT shows no formal passage north to south between the two layouts. The floor level along the outside of the KKT western enclosure wall is about half a metre higher than the roadbed of the ramp at its easternmost extent, where the erosion channel (the 'Cut') truncates it (Fig. 22). Because of this truncation, we do not know if any access existed here onto the ramp, which would have to have been a step down or over a low shoulder wall or banister (Fig. 23). We are missing the southern end of the town where a corridor starting to the west of Building M might have communicated with the broad ramp (Fig. 7, Fig. 25). This corridor is a continuation, after a 90° turn, of the corridor running west along the northern side of Building M. The eastern end of this corridor opens onto the corridor at the bottom of the SLR in the KKT-E (Fig. 4, Fig. 25).

Here, in the missing south-eastern low area, a passage or common access might have existed into the KKT-E from the south, and onto the ramp ascending west to the northeastern corner of the MVT. However, just here one small but potentially significant detail from Selim Hassan's plan suggests the possibility of a southern side to the KKT-E lower complex and its basin. In Hassan's plan¹⁷⁰ the KKT eastern enclosure wall, where it forms the eastern wall of Building M, shows a 90° turn to the east, about 35 m south of the causeway threshold (Fig. 7, Fig. 25). The distance from this turn to the northern side of the northern enclosure wall in the KKT-E measures 52 m, 100 ancient Egyptian royal cubits. If the eastern enclosure wall does turn to run east as a southern boundary of the KKT-E lower area, the two walls

would contain a rectangular space 100 cubits wide.

The MVT is a little less than 52 m wide. The ante-town addition onto the front is narrower north to south, about 47.5 m wide. Its northern wall continues east as the southern wall of the very broad ramp. The angle of this wall would place its northern face 52 m (100 cubits) from the southern wall of the MVT, if both walls are projected about 50 m east, roughly on line with the eastern wall of the KKT foot (Fig. 25).

A turn to the east of the thick enclosure wall at the south-eastern corner of Building M and a continuation of the southern enclosure wall of the KKT foot might suggest that the KKT itself continued east in a strip about 32 m wide between the KKT-E basin on the north, and the broad ramp and enclosure east of the MVT on the south. Selim Hassan checked for a continuation of the settlement directly east of Building M by excavating trenches inside the modern cemetery. After finding mud-brick walls and settlement material, he concluded: 'These tests afforded clear proof of the presence of ancient buildings for a considerable distance below the Moslem cemetery'.¹⁷¹

If the eastern enclosure wall turns as indicated, the wall blocks off the southern end of the corridor running south from the bottom of the SLR on the lower terrace in the KKT-E. Of course, it is possible that this corridor turns east, and that it or some other passage then ran south, across an extension of the KKT, or via a general open area, to communicate with the enclosure east of the MVT. Unfortunately, the issue can only be resolved with evidence in the still-buried, inaccessible low south-eastern part of the site.

Conjoined memorial foundations?

The Khentkaues Town provides a very intimate connection in space and time between Menkaure and Khentkaues I. Seeing the KKT as the pyramid town of both Menkaure and Khentkaues would be a hypothesis worthy of further research, with both monuments coming into being as part of the same large-scale quarrying and stone-working. The subsequent mud-brick works, completed within or, in the case of the KKT very close to, the four or five year reign of Shepseskaf, effectively closed off the delivery of thousands of tons of granite and Tura limestone through the northern shoulder of the main wadi between the Moqattam and Maadi Formation outcrops.

The differing orientations of these layouts, and the lack of a passage communicating between them, as we know them so far, leave us less than convinced that this is a unified complex, pending anything we might learn about connections in the low east/south-eastern part of the site. But the KKT does provide an intimate connection between the MVT and the Khentkaues funerary monument, which without the causeway town and its perpendicular

foot, would be somewhat isolated as well as anomalous in size, shape and position,¹⁷² and in having odd features, including several that are usual in memorial complexes of kings but not those of queens: the causeway, a valley complex and perhaps the town itself.¹⁷³

We imagine that the close association between Menkaure and Khentkaues I, which we read into their architectures, is not so intimate as that between Menkaure and the queens buried in the subsidiary pyramids, GIII-a, b, c. The impression is one of two separate estates conjoined by their side-by-side valley entrances, and by a settlement that may have served to administer, and possibly feed, both.

We have to leave for further discussion the implications of our results for the ‘Khentkaues problem’ and for the transition from the fourth to the fifth dynasty.

Principal abbreviations

AERA: Ancient Egypt Research Associates

DSR: Data Structure Report GOP: Giza Occasional Papers

HeG: Heit el-Ghurab (Wall of the Crow, and site to the south)

KKT: Khentkaues Town

KKT-E: Khentkaues Town East

KKT-AI: Khentkaues Town Interface (with the MVT)

MVT: Menkaure Valley Temple

NLR: Northern Lateral Ramp

SLR: Southern Lateral Ramp

¹ A summary of site and AERA-specific abbreviations will be found at the end of this paper. Many AERA publications, including *AERAGRAM* and the Giza Occasional Papers (henceforth GOP) are available for download on the project's web site <http://www.aeraweb.org/> (accessed 18 October 2010). A number of unpublished internal reports are cited below; these are abbreviated using the name of the author plus the title of the report.

² M. Verner, *Abusir III. The Pyramid Complex of Khentkaus* (Prague 1995); A. Dodson and D. Hilton, *The Complete Royal Families of Ancient Egypt* (London 2010), 65.

³ Dodson and Hilton, *Royal Families*, 62.

⁴ Verner, *Khentkaus*, 178.

⁵ For LG 100 as a special case outside the developmental sequence of either kings' or queens' pyramid tombs, see P. Jánosi, *Die Pyramidenanlagen der Königinnen* (DGÖAW 13; Vienna 1996), 28–30. We do not cite here the extensive bibliography on these issues, but for a brief summary of Lehner's preliminary impressions from a field survey and observations about the

building history of the Khentkaues monument, see note 158 here.

⁶ M. Lehner, 'Introduction', in M. Lehner and W. Wetterstrom (eds), *Giza Reports I. Project History, Survey, Ceramics, and Main Street and Gallery III.4 Operations* (Boston 2007), 46–47; M. Lehner and A. Tavares, 'Walls, Ways, and Stratigraphy: Signs of Social Control in an Urban Footprint at Giza', in M. Bietak, E. Czerny and I. FörstnerMüller (eds), *Cities and Urbanism in Ancient Egypt* (DGÖAW 60; Vienna 2010), 214.

⁷ S. Hassan, *Excavations at Giza IV. 1932–1933* (Cairo 1943), fig. 1.

⁸ G. Reisner, *Mycerinus, The Temples of the Third Pyramid at Giza* (Cambridge, Massachusetts 1931).

⁹ See M. Lehner, M. Kamel, and A. Tavares, 'The Khentkawes Town (KKT)', in M. Lehner, M. Kamel and A. Tavares (eds), *Giza Plateau Mapping Project. Season 2008. Preliminary Report* (GOP 4; Boston 2009), 36–40 for a description of pre-2007 trenches in the KKT-E.

¹⁰ I. Hodder, 'Developing a Reflexive Method in Archaeology', in I. Hodder (ed.), *Towards Reflexive Method in Archaeology: The example at Çatalhöyük* (BIAA Monograph 28; Cambridge 2000), 3–14.

¹¹ S. Farid, 'The Excavation Process at Çatalhöyük', in Hodder (ed.), *Towards Reflexive Method in Archaeology*, 19–35.

¹² B. J. Kemp, 'In the Shadow of Texts: Archaeology in Egypt', *Archaeological review from Cambridge* 3:2 (1984), 19–28.

¹³ L. Yeomans, 'Data Structure Report for the 2007 Season at Khentkawes (KKT)'; 'Data Structure Report for the 2009 Season at Khentkawes (KKT-N)'; H. Mahmoud, 'Data Structure Report for the 2009 Season at Khentkawes Causeway'; K. Olchowska, 'End of Season Report, KKT-E 2008'; D. Jones and K. Olchowska, 'Data Structure Report (DSR) for the Excavations at Khentkawes East (KKT-E)' (Ancient Egypt Research Associates, Inc., unpublished reports on file; Boston).

¹⁴ D. Jones and L. Yeomans, 'Khentkawes (KKT) Archive Integration' (Ancient Egypt Research Associates, Inc., unpublished report on file; Boston 2010).

¹⁵ Based on Jones and Yeomans, 'Integration 2010', 2–3.

¹⁶ Yeomans, 2007 DSR, 8, fig. 5.

¹⁷ L. Yeomans, 'Weekly Report 07ii15'. (Ancient Egypt Research Associates, Inc., unpublished report on file; Boston 2007).

¹⁸ Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 13–18.

¹⁹ Hassan, *Giza* IV, 41.

²⁰ Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 18–21.

²¹ Hassan, *Giza* IV, 39.

²² This limestone threshold and socket is comparable to thresholds and sockets in the MVT: Reisner, *Mycerinus*, 91, 94, fig. 19, pl. 30, Plan IX.

- ²³ Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), *GOP* 4, 34–35, figs 30 and 31.
- ²⁴ Jones and Yeomans, ‘Integration 2010’, 9.
- ²⁵ A. Tavares and L. Yeomans, ‘A House Through Time: Building, Abandonment, and Intermingling’, *AERAGRAM* 10/2 (2009), 10–13; L. Yeomans and H. Mahmoud, ‘KKT-N: Building E and the Adjacent Khentkawes Causeway,’ in M. Lehner (ed.), *Giza Plateau Mapping Project Season 2009 Preliminary Report* (GOP 5; Boston 2011), 43–52.
- ²⁶ Mahmoud 2009 DSR.
- ²⁷ M. Lehner, ‘The Pyramid Age Settlement of the Southern Mount at Giza’, *JARCE* 39 (2002), 58; A. Abd el-Aziz, ‘Main Street Excavations’, in Lehner and Wetterstrom (eds), *Giza Reports* I, 109.
- ²⁸ Mahmoud, 2009 DSR, 5.
- ²⁹ Mahmoud, 2009 DSR, 5.
- ³⁰ Yeomans 2007 DSR, 24, fig. 7.
- ³¹ Hassan *Gîza* IV, 41.
- ³² Yeomans, 2009 DSR, Phases 5b–c.
- ³³ Yeomans, 2009 DSR, 7.
- ³⁴ Yeomans, 2009 DSR, 12.
- ³⁵ Yeomans, 2009 DSR, 12; Yeomans and Mahmoud, in Lehner (ed.), *GOP* 5, 50–51.
- ³⁶ Hassan, *Gîza* IV, 38 noted that, after the causeway doorway in Building A was blocked, the vestibule ‘seems to have been used as a stable for some animal, as can be proved by the presence of a limestone tethering block set in the floor against the southern wall’.
- ³⁷ Tavares and Yeoman, *AERAGRAM* 10/2 (2009), 10–13; Yeomans and Mahmoud, in Lehner (ed.), *GOP* 5, 48–49.
- ³⁸ M. Lehner, M. Kamel, and A. Tavares (eds), *Giza Plateau Mapping Project Seasons 2006–2007 Preliminary Report* (GOP 3; Boston 2009), 11–12; D. Jones, ‘KKT-E, The Mystery of the Lower Buried Building’, in Lehner (ed.), *GOP* 5, 17.
- ³⁹ Jones and Yeomans, ‘Integration 2010’.
- ⁴⁰ M. Lehner, ‘KKT-E: ‘Notes and Reconstructions (Foldout 3)’’, in Lehner (ed.), *GOP* 5, 31.
- ⁴¹ Lehner, in Lehner (ed.), *GOP* 5, 31.
- ⁴² M. Lehner, ‘Valley Complex for a Queen Who Would be King’, *AERAGRAM* 10/2 (Fall 2009), 6–9; Lehner, in Lehner (ed.), *GOP* 5, 32.
- ⁴³ M. Lehner, ‘Capital Zone Walk-About 2006: Spot Heights on the Third Millennium Landscape’, in Lehner, Kamal and Tavares (eds), *GOP* 3, 142.
- ⁴⁴ H. Ricke, ‘Der Harmachistempel des Chefreden in Giseh’, *BeiträgeBf* 10 (1970), 3–6; M. Lehner, ‘Unfinished Business: The Great Sphinx’, *AERAGRAM* 5/2 (2002), 10–15.

- ⁴⁵ Lehner, in Lehner, Kamal and Tavares (eds), GOP 3, 112–114.
- ⁴⁶ Lehner, in Lehner, Kamal and Tavares (eds), GOP 3, 129–136; D. Jeffreys, ‘High and Dry? Survey of the Memphite Escarpment’, *EA* 19 (2001), 15–17; id., ‘The Survey of Memphis: Recent Results’, *EA* 29 (2006), 14–15; id., ‘Archaeological Implications of the Moving Nile’, *EA* 32 (2008), 6–7; I. Casey, ‘Settlements at South Saqqarā’, *EA* 15 (1999) 24–25; S. Seidlmayer, *Historische und moderne Nilstände: Untersuchungen zu den Pegelablesungen des Nils von der Frühzeit bis in die Gegenwart* (Berlin 2001), 47–48.
- ⁴⁷ The German Institute mission found an artificial, deeply excavated and revetted enclosure in the wadi east of the so-called valley temple of the Bent Pyramid. We would like to thank Nicole Alexanian and Dirk Blaschta for a visit to their excavations in April 2010, and for permitting us to mention this.
- ⁴⁸ Lehner, in Lehner, Kamal and Tavares (eds), GOP 3, 132.
- ⁴⁹ W. Willcocks, *Egyptian Irrigation* (London 1889), 44.
- ⁵⁰ Lehner, in Lehner, Kamal and Tavares (eds), GOP 3, 142.
- ⁵¹ Jones and Olchowska, 2009 DSR, 21.
- ⁵² Lehner, in Lehner, Kamal and Tavares (eds), GOP 3, 135.
- ⁵³ Jones and Yeomans ‘Integration 2010’, 6.
- ⁵⁴ Lehner, *AERAGRAM* 10/2 (2009), 8–9; Lehner, in Lehner (ed.), GOP 5, 32.
- ⁵⁵ Lehner, ‘Notes 2009’, 11.
- ⁵⁶ Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 36–43; A. Tavares, ‘Two Royal Towns: Old Digs, New Finds’, *AERAGRAM* 9/2 (2008), 8–11.
- ⁵⁷ M. Lehner, ‘KKT-E: Elevation View (Foldout 2)’, in Lehner (ed.), GOP 5, 26.
- ⁵⁸ Jones, in Lehner (ed.), GOP 5 (2011), 20.
- ⁵⁹ Jones and Olchowska, ‘2009 DSR’, 27.
- ⁶⁰ Jones and Yeomans, ‘Integration 2010’, 7–8.
- ⁶¹ Jones and Olchowska, 2009 DSR, 19.
- ⁶² Jones and Yeomans, ‘Integration 2010’, 10.
- ⁶³ Jones, in Lehner (ed.), GOP 5, 22–23.
- ⁶⁴ Lehner, in Lehner (ed.), GOP 5, 30.
- ⁶⁵ Jones and Olchowska, 2009 DSR, 16; Jones, in Lehner (ed.), GOP 5, 22.
- ⁶⁶ A. Wodzińska, ‘Khentkawes Town 2009: Pottery Overview’, in Lehner (ed.), GOP 5, 173–177.
- ⁶⁷ S. Marchand and M. Baud, ‘La céramique miniature d’Abou Rawash. Un dépôt à l’entrée des enclos orientaux’, *BIFAO* 96 (1996), 267.
- ⁶⁸ For example, a magazine 5 m long × 0.90 m wide that contained a cache of pottery vessels in the domestic unit, North Street Gate House, in the Heit

el-Ghurob settlement; M. Lehner, M. Kamel and A. Tavares, *Giza Plateau Mapping Project. Season 2004. Preliminary Report* (GOP 1; Boston 2009), 12–13.

⁶⁹ Reisner, *Mycerinus*, 43, 53.

⁷⁰ Jones and Olchowska, 2009 DSR, 30.

⁷¹ Wodzińska, in Lehner (ed.), GOP 5, 174.

⁷² T. I. Rzeuska, ‘Some Remarks on the Old Kingdom White Painted Funerary Cult Pottery from West Saqqara’, in J. Popielska-Grzybowska (ed.), *Proceedings of the Second Central European Conference of Young Egyptologists. Egypt 2001: Perspectives of Research, Warsaw 5–7 March 2001* (Warsaw 2003), 398.

⁷³ Wodzińska, ‘Khentkawes Town 2009. Pottery’, 5.

⁷⁴ Jones and Olchowska, 2009 DSR, 30.

⁷⁵ Jones and Yeomans, ‘Integration 2010’, 13.

⁷⁶ Jones and Olchowska, 2009 DSR, 30; Jones, in Lehner (ed.), GOP 5, 23–24.

⁷⁷ Jones and Yeomans, ‘Integration 2010’, 14.

⁷⁸ Jones and Yeomans, ‘Integration 2010’, 13.

⁷⁹ Yeomans, 2007 DSR, 22.

⁸⁰ Jones and Olchowska, 2009 DSR, 20.

⁸¹ J. Kaiser, ‘Human Osteology 2009’, in Lehner (ed.), GOP 5, 188, pl. 10a.

⁸² Wodzińska, in Lehner (ed.), GOP 5, 178, fig. 17.14.

⁸³ Jones and Yeomans, ‘Integration 2010’, 14.

⁸⁴ Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 33–36.

⁸⁵ Reisner, *Mycerinus*, 26.

⁸⁶ Reisner, *Mycerinus*, 15, 31, 278, pl. 19b; n. C. Strudwick, *Texts from the Pyramid Age* (Atlanta 2005), no. 16, 97–98.

⁸⁷ Reisner, *Mycerinus*, 72.

⁸⁸ Reisner, *Mycerinus*, pl. I.

⁸⁹ Reisner *Mycerinus*, 26–33.

⁹⁰ Reisner, *Mycerinus*, 31–32, 279–280, pls 19e–I, A2–5. Reisner suggested a very small fragment (his pl. 19h) might be part of the Horus name of Merenre.

⁹¹ Reisner, *Mycerinus*, 19.

⁹² Reisner, *Mycerinus*, pls 17 a–b and p. 19 where Reisner gives the object numbers of eight sealings from Room 22: 07-1-81 to 07-1-88. A search in the Giza Archives (<http://www.gizapyramids.org/code/emuseum.asp?newpage=library>, Dec. 14, 2010) of the first in this series gives rendition (Photo ID) numbers B193_NS, B195_NS, and B2066_NS for photos of sealings. Under ‘Description’ these entries give: ‘Mud sealings (with seal impressions) from Menkaure pyramid temple, corridor 21/22, [GLYPHS]

(serekh) Neferkara: top row: 07-1-87, 07-1-88, 07-1-88; bottom row: 07-1-88 (upper item), 07-1-86 (lower item), 07-1-81, 07-1-82'. Under 'Remarks' the entry gives: 'Original entry read: room G (= corridor 13), W end, which would be N end of corridor 21/22; provenance obtained from publication (p.19) suggests S end of corridor 21/22'. Under 'Problems/Questions' these entries give: 'VERIFIED: identifications made based on comparison with publication and objects; all registration numbers based on publication (no registration records from this date); Reisner reference verified'. In G. A. Reisner and W. S. Smith, *A History of the Giza Necropolis II, The Tomb of Hetep-heres the Mother of Cheops* (Cambridge, MA 1955), viii, the figure list gives fig. 56 as 'Sealings of Mycerinus, Isesy, and Teti from the Mycerinus Valley Temple'. However in the discussion on p. 53 of *Giza Necropolis II*, Smith gives: 'Mycerinus Pyramid Temple: Tety (?). In *Mycerinus*, p. 19, Dr. Reisner suggested that these two fragments contained the Horus name of Tety, Sehep-[tawy]. There appears to have been two Horus hawks standing facing each other on a wide frame. See Fig. 56'.

⁹³ Reisner, *Mycerinus*, 26.

⁹⁴ Reisner, *Mycerinus*, 39.

⁹⁵ Reisner, *Mycerinus*, 35–38.

⁹⁶ Reisner, *Mycerinus*, 53–54 for a summary outline.

⁹⁷ Reisner, *Mycerinus*, 53.

⁹⁸ Hassan, *Gîza IV*, 59–60.

⁹⁹ Reisner *Mycerinus*, 51.

¹⁰⁰ Reisner *Mycerinus*, pl. VIII.

¹⁰¹ Reisner *Mycerinus*, 41.

¹⁰² Reisner *Mycerinus*, 51.

¹⁰³ M. Lehner, *The Complete Pyramids* (London 1997), 232.

¹⁰⁴ Reisner, *Mycerinus*, 52.

¹⁰⁵ Reisner, *Mycerinus*, 53.

¹⁰⁶ Reisner, *Mycerinus*, 54.

¹⁰⁷ Reisner, *Mycerinus*, 46.

¹⁰⁸ Hassan, *Gîza IV*, 57.

¹⁰⁹ During our 2008 season, we investigated the eastern half of the vestibule ('Vestibule 2') at the northern end of what we call the ante-town, seeing this addition as an extension of the settlement and valley temple of Menkaure; see Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), *GOPI* 4, 22–27. We hope to articulate the structural relationships between this addition and the eastern MVT wall in a coming field season.

¹¹⁰ Reisner, *Mycerinus*, 52.

¹¹¹ Reisner, *Mycerinus*, Plan VIII, pl. 31a–b,

¹¹² Reisner, *Mycerinus*, 50.

- 113 Wodzińska, in Lehner (ed.), *GOP* 5, 178, fig. 17.13.
- 114 Reisner, *Mycerinus*, 44–45, 54.
- 115 As Reisner, *Mycerinus*, 73 indicates.
- 116 Reisner, *Mycerinus*, 73.
- 117 Reisner, *Mycerinus*, 54; 280, pl. A,1; W. S. Smith, ‘Inscriptional Evidence for the History of the Fourth Dynasty’, *JNES* 11 (1952), 113; Strudwick, *Texts from the Pyramid Age*, No. 23, 106–107. Between stela fragments and sealings, the textual record from the Menkaure temples mentions all the kings of the sixth dynasty.
- 118 Reisner, *Mycerinus*, 45.
- 119 Jones and Yeomans, ‘Integration 2010’, 13.
- 120 Reisner, *Mycerinus*, 45.
- 121 Hassan, *Giza* IV, 57.
- 122 Lehner, Kamal and Tavares, *GOP* 1, 38–39.
- 123 R. Kuper and D. Kröpelin, ‘Climate-Controlled Holocene Occupation in the Sahara, Motor of Africa’s Evolution’, *Science* 313 (2006), 803–807.
- 124 S. Kröpelin et al., ‘Climate-Driven Ecosystem Succession in the Sahara: The Past 6000 Years’, *Science* 320 (2008), 765–768.
- 125 Bunbury, Judith, ‘Egypt and the Global Cooling Crisis’, *Ancient Egypt* 10.1 (August/September 2009), 53–54.
- 126 Bunbury, *Ancient Egypt* 10.1, 54.
- 127 Reisner, *Mycerinus*, 53.
- 128 Reisner, *Mycerinus*, 51.
- 129 Reisner, *Mycerinus*, 32.
- 130 We might note here the pivot socket for the swinging door into the second vestibule that faced north to the top of the broad ramp in the ante-town. The socket was formed right into the foot of one of Khafre’s statues, next to his *serekh* and cartouche (Hassan, *Giza* IV, 55, pl. XXV). We do not know the relative or absolute date of this addition onto the front of the MVT. Enough remains that we can investigate its articulation with the first temple in coming seasons.
- 131 E. Hornung, R. Krauss and D. A. Warburton (eds), *Ancient Egyptian Chronology* (Handbook of Oriental Studies. Section 1. The Near and Middle East 83; Leiden 2006), 491.
- 132 For that matter, can we expect Menkaure’s workmen to have finished what stone-working they did in the six years given to his reign in a recent chronology? Kraus and Warburton believe so; R. Krauss and D. A. Warburton, ‘Conclusions’, in Hornung, Krauss and Warburton (eds), *Ancient Egyptian Chronology*, 485, 489, 491.
- 133 Both quotations from Reisner, *Mycerinus*, 51.
- 134 Reisner, *Mycerinus*, 53.
- 135 B. J. Kemp, ‘Old Kingdom, Middle Kingdom, and Second Intermediate

Period c. 2686–1552 BC’, in B. G. Trigger, B. J. Kemp, D. O’Connor and A. B. Lloyd (eds), *Ancient Egypt, A Social History* (Cambridge 1983), 92–94; id., *Ancient Egypt, Anatomy of a Civilization* (London 1989), 144–149; second edition (London 2006), 205–211.

¹³⁶ Hassan, *Gîza IV*, 57–58. I would like to thank Vivienne G. Callender for drawing my attention to this piece.

¹³⁷ Hassan, *Gîza IV*, 51.

¹³⁸ M. Lehner, M. Kamel and A. Tavares, *Giza Plateau Mapping Project Season 2005 Preliminary Report* (GOP 2; Boston 2006), 15–16; Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 22–24; M. Lehner, ‘Ascending Giza on a Monumental Ramp’, *AERAGRAM* 11/1 (2010), 8–13.

¹³⁹ Lehner, Kamal and Tavares, GOP 1, 16; Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 21–22.

¹⁴⁰ G. Jéquier, *Le monument funéraire de Pepi II^e. III: Les approches du temple* (Cairo 1941). We might add the MVT and KKT-E to the comparisons between valley temples and depictions of the Ibu and Wabet in the embalming ritual.

¹⁴¹ Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 22.

¹⁴² G. Jéquier, *La Pyramide d’Oujebten* (Cairo 1928), 21–31.

¹⁴³ Reisner, *Mycerinus*, 36 states he extended the clearing, in mid-December 1910, 4 m south of the southern side of the temple, ‘over a mud surface about a meter lower down and sloping away to the south’. This lower silty deposit could be from the remains of settlement south of the MVT. On the other hand, it suggests the edge of the ruin mound tapering away.

¹⁴⁴ Lehner, *AERAGRAM* 11/1 (2010), 8–9.

¹⁴⁵ We know, from our 2009 Trench B, that the KKT western enclosure wall predates the fieldstone house to the west, see Fig. 22.

¹⁴⁶ Hassan, *Gîza IV*, 38 (Hassan mentions five silos in this room which he calls 75), 40.

¹⁴⁷ Jones and Yeomans, ‘Integration 2010’, fig. 9; Yeomans, 2009 DSR, 9–10.

¹⁴⁸ Reisner, *Mycerinus*, pl. VIII.

¹⁴⁹ Kemp, *Ancient Egypt* (second ed.), 205.

¹⁵⁰ Jones and Olchowska, 2009 DSR, 27.

¹⁵¹ As Kemp, *Ancient Egypt* (second ed.), 207 wrote concerning the KKT: ‘The reason for the L-shaped plan is not really clear, although it must be remembered that, according to the reconstruction of the overall layout of the Giza plateau ... the quays and basins of the reception zone for building materials probably lay close by, and provided a limit to eastward building. But the effect was to bring the southern extension almost into contact ...

with the Valley Temple of King Menkaurá. Kemp refers to M. Lehner, 'A Contextual Approach to the Giza Pyramids', *AfO* 32 (1985), 136–158. See also, M. Lehner, 'The Development of the Giza Necropolis: The Khufu Project', *MDAIK* 41 (1985), 109–143.

¹⁵² Lehner, *AERAGRAM* 9/2 (2008), 14–15.

¹⁵³ Lehner, *MDAIK* 41 (1985), 122 (B13).

¹⁵⁴ Reisner, *Mycerinus*, 9, 74.

¹⁵⁵ See note 137. For a full report on this ramp, and our work in the area between the KKT and MVT (area KKT-AI), see M. Lehner, 'KKT-AI: Between Khentkawes Town and the Menkaure Valley Temple', in Lehner (ed.), *GOP* 5, 53–92.

¹⁵⁶ Lehner, *AERAGRAM* 11/1 (2010), 8–13. A major erosion channel cuts through the interface between the southern end of the KKT and the MVT, taking out much of the northern side of the ramp and then, exactly at the south-western corner of the KKT enclosure wall, the channel turns south to truncate the ramp (Fig. 22). Settlement debris collapsed from a structure on the northern shoulder of the ramp into the channel ('the Cut'; see Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), *GOP* 4, 29–31). Anna Wodzińska dates pottery from this and from gravel fill that people subsequently dumped into the channel to the late sixth dynasty. It is very possible the 'Cut' in the KKT-AI was made by the same forces, about the same time as the flash flood Reisner recorded in the MVT (phase II.8–9) and the Gully in the KKT-E (phase 6).

¹⁵⁷ Kraus and Warburton, *Ancient Egyptian Chronology*, 485, 498, see the unfinished state of Menkaure's pyramid complex as evidence of a short reign. They award him six years.

¹⁵⁸ Yukinori Kawae directed a laser scanning survey of the Khentkaues monument for AERA in 2006; Y. Kawae, 'Giza Laser Scanning Project', *GOP* 3, 166–175; 'Mapping Khentkawes', *AERAGRAM* 8/2 (2007), 10–12. In 2009 Lehner took extensive notes on the monument; 'Khentkawes: Unusual Tomb for an Enigmatic Queen' (Ancient Egypt Research Associates, Inc., unpublished report on file; Boston 2009). Certain details suggest to him that workers completed casing the sides with Tura limestone and paved the top of the bedrock pedestal and they cased the upper mastaba, all as part of one project. Lehner's preliminary impression is that the mastaba and the pedestal do not appear to belong to different building periods. Certainly, sculptors carved in relief on the bedrock southern face of the pedestal a false door pattern (with tall and narrow false doors interspersed with low and wide false doors), then covered this work when they cased the pedestal. Lehner sees no evidence of such carving on the other three sides. Rather, certain evidence indicates that such relief decoration would not have been applied to those faces. Among other factors, due to insufficient bedrock on the west and upper north-western corner, the builders had to square the podium with thick packing and then

casing stones. It is doubtful they ever had the flat planes of the southern and eastern faces that would allow the elaborate decoration, although on the east they probably built a northern false door into the casing, set into a rebate in the bedrock face. It appears that the carving on the southern face was an early step that the designers abandoned during a single building period.

¹⁵⁹ As suggested by Maragioglio and Rinaldi, *L'Architettura delle Piramidi Menfite Parte VI – Testo* (Rapallo 1967), 168.

¹⁶⁰ M. Verner, 'Archaeological Remarks on the 4th and 5th Dynasty Chronology', *Archiv Orientalní* 69 (2001), 383 suggests Shepseskaf could have finished the mud-brick works for Menkaure in two years. I thank John Nolan for drawing my attention to Verner's article.

¹⁶¹ Reisner, *Mycerinus*, 73.

¹⁶² A. Abd el-Aziz, 'KKT Brick Preliminary Report', 2; 'Quick notes about KKT Bricks', 1 (Ancient Egypt Research Associates, Inc. reports on file; Boston 2008). In contrast, most of the bricks in the HeG settlement are lighter, grey in colour, sandier in composition and smaller in size.

¹⁶³ Reisner, *Mycerinus*, 9, 74.

¹⁶⁴ Reisner, *Mycerinus*, 39.

¹⁶⁵ Lehner, in Lehner (ed.), GOP 5, 64.

¹⁶⁶ Lehner, in Lehner (ed.), GOP 5, 77–79, 85–88, Figs. 8.38–39.

¹⁶⁷ Lehner, Kamal and Tavares, GOP 1, 16; Lehner, Kamal and Tavares, in Lehner, Kamal and Tavares (eds), GOP 4, 21, fig. 13; Lehner, in Lehner (ed.), GOP 5, 64, 88.

¹⁶⁸ Lehner, *AERAGRAM* 11/1 (2010), 8–9; Lehner, in Lehner (ed.), GOP 5, 72–77.

¹⁶⁹ Lehner, in Lehner (ed.), GOP 5, 82–84.

¹⁷⁰ Hassan. *Gîza* IV, fig. 1.

¹⁷¹ Hassan, *Gîza* IV, 41.

¹⁷² Jánosi, *Die Pyramidenanlagen*, 73, n. 517: 'sondern liegt im Central Field wie die Privatgräber anderer Königinnen und der Beamter'.

¹⁷³ It is a point of contention whether what we have called the Khentkaues causeway fulfilled a significance and function like the causeways connecting upper and lower pyramid temples. Maragioglio and Rinaldi, *Piramidi Menfite VI*, 190, called the KKT, 'the only royal feature of the [Khentkawes] complex'. We have just considered the hypothesis the town functioned with the Menkaure complex as well as the Khentkaues memorial.

Searching for an undistorted template (digital epigraphy in action)

Jolana Malatkova

Efforts that have been made for precise documentation of artefacts and other archaeological finds are as old as Egyptology itself. However, the age of computerisation has changed the world, including Egyptological epigraphy. In preparing the final output, the drawing board, translucent paper and pen and ink have been replaced by a tablet, a cordless pen and vector drawing software. Most of our contemporary outputs are recorded in electronic data, which can be infinitely corrected, adapted to different types of reproduction, updated and interconnected. Needless to say, all this technology immensely facilitates the work done on the final output.

Principles for digital epigraphy were suggested in an excellent and useful article by Peter Manuelian in 1998.¹ By these principles, the slightly modified basic scheme of the methodology is as follows:

- preparation of tracings and photographs
- importing of scanned tracings and digital (or digitised) photographs into a vector drawing program
- vector drawing
- output of proofs on printer
- collation of proofs at the real object
- corrections transferred to the vector drawing program
- repetition of steps 4–6 as often as needed
- final output (PDF, TIFF files, others)

These principles are still valid, although the hardware and software has inevitably changed over the course of time. However, one thing remains the same: the template, which is the model for the final drawing.

In digital epigraphy, the term *template* refers to an image that is placed in the lowest layer of vector drawing program.

This image – perhaps a drawing made in the field, a photograph or both – represents the most important part of the entire epigraphic work. Of course, for digital epigraphy the image must be digital or digitised.

The text and examples discussed in this paper concern digital epigraphy of the fifth dynasty reliefs from the tomb of Neferinpu discovered by the Czech archaeological team in the South Abusir.²

If the object is relatively small and portable, it can be photographed with a digital camera under suitable light conditions and using appropriate lenses, so that the distortion is more or less negligible; a tracing does not need to be made. The best sort of camera has a fixed-focus lens with a focal length of 50 mm.

Individual stages of the digital drawing of a small object based on a template obtained only by photography is demonstrated in [Fig. 1](#). Conventions of shadowing are based on the use of lighting from the top left direction: low or bas-/raised relief then casts a shadow on the bottom right (see [Fig. 1](#)); sunk relief throws a shadow above left.

The method of digital shadowing was also demonstrated by Manuelian ([Fig. 2](#)). Although it appears to be a simple process, the shadowing must be done very cautiously because it could, in some cases, obscure the expression of the artwork itself. In this respect, digital technology is advantageous: the layers with shadowing can easily be either revealed or hidden and published at one's discretion. As far as larger objects are concerned, the technology which would fully replace the classic tracing is not yet available. We shall later in the text explain why.

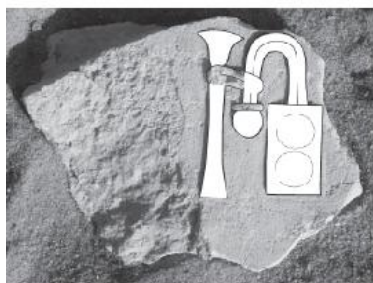
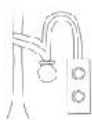


Fig. 1: Workflow pattern involving digital epigraphy, using one of the fragments discovered in the tomb of Neferinpu; a) photo, b) basic line drawing, c) shadowing, d) outline of the fragment and filling of the surface and broken parts (photo and drawing ©Jolana Malátková)

Step 1: tracing of carved lines
shapes filled with white (opaque)



Step 2: duplication of sign
shapes filled with black



Step 3: black-filled sign underneath the
white-filled sign is offset for drop-shadow,
to indicate raised or sunk relief

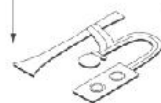


Fig. 2: Workflow pattern demonstrating digital shadowing after Manuelian (see note 1)



Fig. 3: Documentation of the lintel of Neferinpu's false door: scanned tracing (drawing © Jolana Malátková, scan © Data System)



Fig. 4: Documentation of the lintel of Neferinpu's false door: a) drawing using a photograph of part of the lintel; b) final drawing of the same part (photo and drawing © Jolana Malátková)

Modern thin, perfectly translucent thermostable plastic foils have enabled further precision of the work of epigraphy. The problem begins when a drawing of several square metres is to be computerised. The Czech team uses a large scale flatbed scanner enabling it to scan foils with a maximum width of 90 centimetres as an endless band. Further progress depends on the hardware and draughtsman's choice. For instance, the scans can be joined by means of an image editing program and the restored original shape can be used as a template. However, this option demands efficient and powerful hardware. As an alternative, individual parts can be used as templates and the vector drawings can then subsequently be joined. The scanned tracing (Fig. 3) as a template has one invaluable advantage: principally, it is not distorted.

In spite of all the efforts, this method has (and always has had) a weak point. Leaving aside the question of the ease or difficulty relating to the accessibility of the object being recorded, the crucial problem is the light. If the lighting is controllable and steady, which is not the case with natural daylight, the tracing can be precise. In these circumstances, the combination of the classic tracing with a digital photograph seems to be the most convenient method and can warmly be recommended for any epigraphic work. We used this method for the documentation of the lintel of Neferinpu's

false door.³ The lintel was photographed section by section and the photos were used as a template for vector drawing of individual sections. Using the function of ‘copy and paste’, the individual drawings were added to the file containing the scanned tracing as a template. In this way, all the details remained in their correct positions (Fig. 4).

As previously mentioned, the accuracy of tracing basically depends on the lighting. Therefore, documenting large pieces is a very different task, indeed. Such an example is here demonstrated, using the bottom part of Neferinpu's false door – which was found in situ and was accessible only through a narrow open trench facing east (Fig. 5). In this case, making a tracing with as much precision as possible was essential, since we were dealing with a very fine fifth dynasty relief. Because conditions for photography were very poor, a lens with a short focal length was used which, inevitably, resulted in distorted photographs. Therefore, as a template for vector drawing, the scanned tracing was used and photographs, corrected and adjusted by the photographer, served only for checking some of the fine details; they were not used as the template. A few details omitted during the tracing were added from photographs. Fig. 7 shows how the photograph differs from the undistorted tracing.



Fig. 5: Tracing of the bottom part of Neferinpu's false door in situ (photo © Jaromír Krejčí)

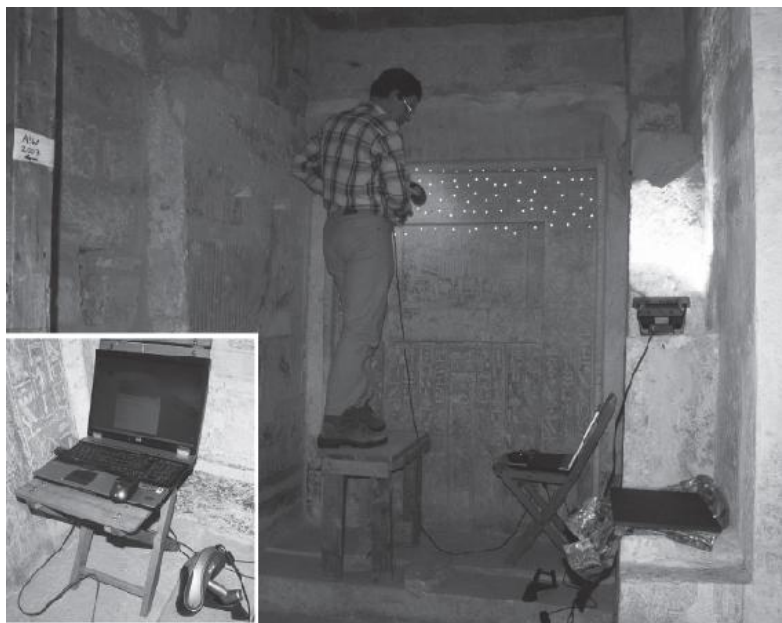


Fig. 6: 3D-scanning in the chapel of Inti in South Abusir (photo © Jolana Malátková)

Usually, the photograph of large entities is distorted unless a special camera and special software is used. Vector drawing based only on the tracing is, on the other hand, a mere interpretation of an interpretation. However, combining photo close-ups and digitised tracing is a powerful tool offering the most accurate results. In addition to that, more photos of the same detail can be made under different lighting conditions, and after those have been selected, a drawing of maximum accuracy can be created. This drawing would subsequently be pasted into the file in which the tracing is used as a template. Such a drawing contains all the details in the correct proportions.

However, there are further options. At the end of the spring season of 2009, the Czech mission in Abusir tested in practice a hand held 3D laser scanner (Fig. 6). It was also used, alongside the standard tracing, for documenting the middle part of Neferinpu's false door.



Fig. 7: Drawing of the bottom part of Neferinpu's false door; drawing based on the tracing in comparison with the photograph. Differences in proportions are obvious (photo © Martin Frouz, drawing © Jolana Malátková)

Undoubtedly, the output from the scanner (Fig. 8) provides an undistorted template. But the scanned, virtual object behaves as a genuine piece of stone and the direction of the light is adjustable, in this case also virtually so, and affects what one can see on the computer screen. Fig. 11 shows, for example, one part of the relief in different lighting conditions. In the final epigraphic output, this virtual methodology can cause serious problems. In addition to the need for software to enable the technician to change the position of the object in space and its illumination, the draughtsman must be experienced enough to know where are the 'risky' spots which need to be examined in different lighting conditions and from different angles. Moreover, the 3D scanner does not depict all the details as accurately as a photograph. Therefore, 3D scanning cannot be the sole method used to record an object, even though it may be sufficient as a single source of information for a piece of digital epigraphy. The situation is similar to the classic tracing (Fig. 9). Thus, the output from the scanner is best used in combination with a digital photograph. Unfortunately, in case of sunk relief, this method has not, so far, provided precise results (Fig. 12).



Fig. 8: 3D-scan of the central panel of Neferinpu's false door (scan © Inset s.r.o.)



Fig. 9: 3D-Scan used as an undistorted template for vector drawing (scan © Inset s.r.o., drawing © Jolana Malátková)



Fig. 10: Final vector drawing of the central panel of Neferinpu's false door. Details were checked and/or added using close-up photographs and a scanned tracing as templates (drawing © Jolana Malátková)

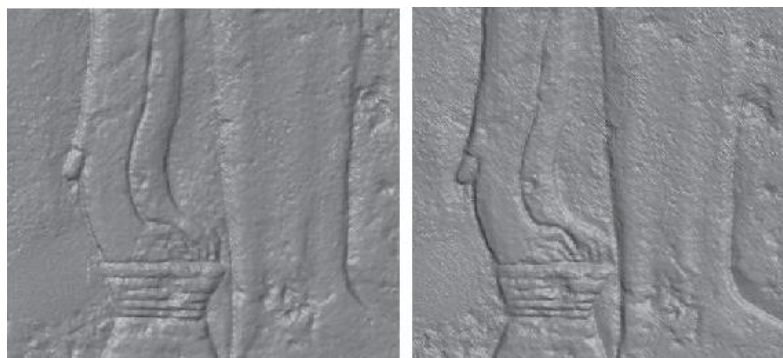


Fig. 11: Details from a 3D-scan of the central panel of Neferinpu's false door, showing selected sections in different lighting conditions; a) light from above left, b) light from above right (scan © Inset s.r.o.)



Fig. 12: 3D-scan of an example of sunk relief. On the final drawing, such a scan can be used only for adjusting the positions of the individual features of the relief; details must be drawn using photographs as templates (scan © Inset s.r.o.)

It would be premature, however, to reject 3D scanning as a method altogether, even though it may be more inaccurate than the tracing undertaken in natural daylight; scanning also has some advantages. One of the benefits of the method is that the 3D scan is absolutely undistorted. The method can be advantageously used in case of large entities, or when the recorded object is physically inaccessible at the time of the final vector drawing (the scan can be used for collation instead of the real object). It is also important to keep in mind that a two-dimensional template for digital epigraphy is only a by-product of this documentation method and that all data are available in the computer and can be visualised by changing the light, resolution, contrast, and so on.

Conclusion

Classic and digital epigraphy have one thing in common: both need a maximum accurate, undistorted template. The advantage of digital epigraphy is that it can use a number of such templates in preparation of the final output. The sources must be cautiously chosen and carefully arranged prior to putting them into the vector drawing program. As such sources can include digital (or digitised) close-up photos (colour or black and white and all under different lighting conditions – both simulated and natural in various time of day). Only a digitised tracing or the output from 3D scanning can become a guide for the correct placement of individual details of a relief. By means of the ‘copy’ and ‘paste’ functions, the final image which has the optimum accuracy and, at the same time, is undistorted (Fig. 10), may well have been prepared and completed from different sources and from individual vector drawings.

As in any creative activity, in digital epigraphy as well, the same ends can be gained in different ways – depending of the personal approach of the draughtsman. Therefore, the above text, which sets out something of the range of digital technology and methodology, is a mere suggestion of one such a way in which the technician may approach the work.

¹ P. D. Manuelian, 'Digital Epigraphy: An Approach to Streamlining Egyptological Epigraphic Method', *JARCE* 35 (1998), 97–113.

² M. Verner, *Abusir. Fall–Spring Season of 2005–2006 (Report)*; J. Krejčí, M. Verner, M. Bárta, L. Bareš, *Report on the Excavation season in Abusir, October 1, 2006 – May 15, 2007*. Archives of the Czech Institute of Egyptology, Prague.

³ M. Bárta, 'Reassembled false door from the reign of Nyuserrá, in a Festschrift in press.

The ‘Reserve Heads’: some remarks on their function and meaning

Massimiliano Nuzzolo

Introduction¹

A full century has elapsed since Jacques de Morgan's excavations at Dahshur unearthed the first reserve head (Cairo CG 591).² Since then, many theories have been put forward to explain their anomalous shape and strange mutilations, but none has found a general consensus among scholars.³

This situation of uncertainty is even more complicated by the lack of any textual evidence contemporary with the heads which could help us to uncover the secrets of the religious beliefs and funerary practices of the Egyptians of that period more than just the indirect archaeological evidence does. At the same time, however, we must beware of using later textual sources too freely to support our interpretations of much older archaeological data, unless these sources directly refer to the period in question.⁴ Indeed, despite the traditional, conservative character of Egyptian thought and myth, each period has its own peculiarities as to both religious and historical backgrounds.

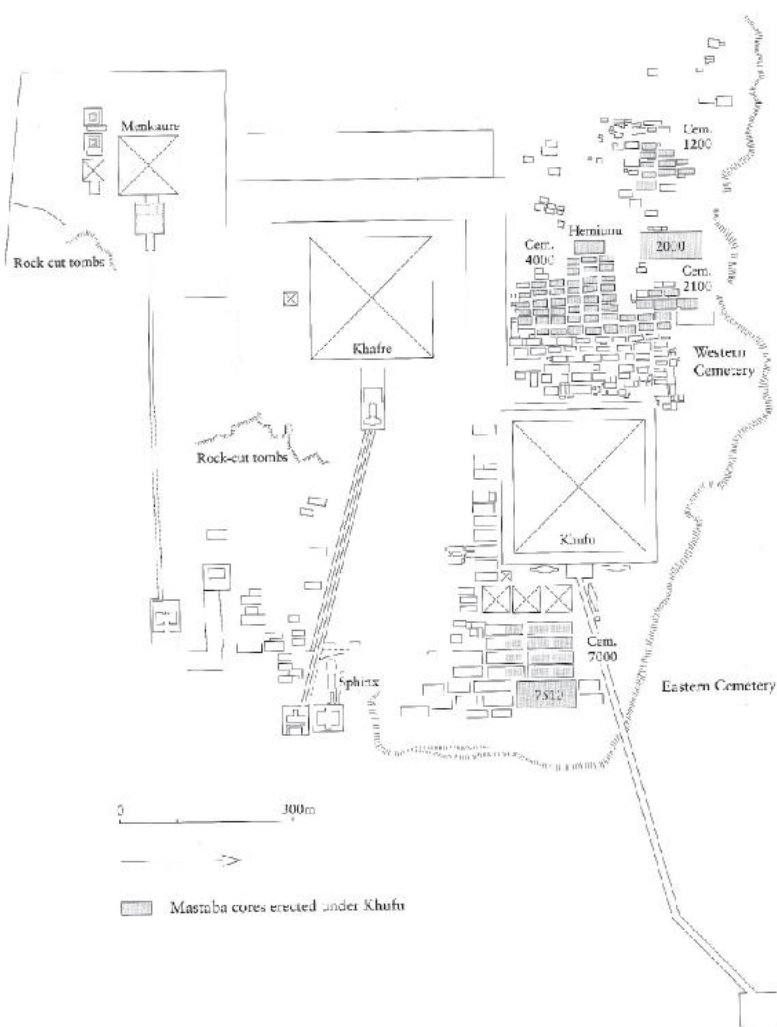


Fig. 1: Map of the Giza Necropolis (after Jdnosi, in Arnold (ed.), Egyptian Art, 28). In grey the mastabas built during Khufu's ign

Therefore, starting from a reconsideration of the whole corpus of artefacts and a comparison with other important archaeological, ideological and religious elements of the same period, I will try to show how these sculptures were closely related to the political theology of the beginning of the fourth dynasty and particularly to the figure of Khufu.

In doing so, however, I do not claim to offer any conclusive solutions. With this discussion, I simply wish to draw attention to some reservations and possible lines of research, hoping that these 'magical heads' may continue to receive such attention.⁵

The corpus of the heads: artistic features and archaeological context

Carved in fine white limestone, although sometimes finished with substantial amount of plaster,⁶ the heads show unmistakable physiognomic features with clear portrait hints.⁷ However, they appear to be quite standardised in dimensions (about 25–30 cm high), and aesthetic characteristics: all are unpainted⁸ and display either a low surface or an incised line encircling the forehead; deep-set eyes; eyebrows drawn in relief; fine carved noses with the wings of the nostril joining the cheeks; philtrum rendered as a shallow trench with vertical walls.⁹ The strange gaze of the person represented, which is unusually raised from horizontal,¹⁰ and the lack of any explicit indicator of gender¹¹ – usually a very important concern in Egyptian statuary¹² – seem to be further indications that these sculptures were produced in series in the same, probably royal, workshop.¹³

However, of the thirty-six heads known,¹⁴ I will take only thirty-one into consideration, those from Giza. Almost all were found in the western cemetery in well-known archaeological contexts dated approximately to the reign of Khufu.¹⁵

The rest, which will not be taken into account in this context, are somewhat problematic: two, in a private collection in Belgium and at University College London respectively, are of unknown provenance and show artistic features that make them very different from the other heads, leading some scholars to raise doubts about their authenticity.¹⁶ The other three, from outside Giza, were found in isolated, doubtful archaeological contexts and for this reason are generally considered separately.

Two, from Abusir¹⁷ and Saqqara,¹⁸ were discovered in close proximity to tombs dated to the fifth and sixth dynasties which had been largely ransacked by robbers. This has led some scholars to argue that these two heads may have been reused.¹⁹ The last one was found at Dahshur in a well preserved tomb dated from the very last part of Sneferu's reign to the beginning of that of Khufu.²⁰ It shows close affinities with those from Giza and might thus be the first of a long series having Giza as its artistic and cult centre.²¹

The majority of the thirty-one reserve heads with which we are going to deal were unearthed in the so-called 'Western Cemetery' or 'Western Field' at Giza²² (Plate 7), and in particular in the three burial fields in this area extending west of Khufu's pyramid and dating from his reign: cemeteries G 1200, G 2100 and G 4000.²³ The first two cemeteries yielded one head each (G 1203 and G 2110²⁴) but twenty-two were found in cemetery G 4000,²⁵ nearly all of them in the group of twenty-four mastabas that belong to the very first building phases identified by Reisner (Fig. 1, Plate 7).²⁶ These structures form three rows of eight tombs to the east of the huge mastaba of Hemiuu (G 4000), certainly the most important of this cemetery in view of

its size as well as its position.²⁷

Seven heads were found outside cemeteries G 1200, G 2100 and G 4000. Two were found in the western field but in slightly later tombs (D 38 and G 5020²⁸) which were, however, very close to cemetery G 4000.²⁹ Four other heads come from the so-called 'Eastern field' G 7000, on the east side of Khufu's pyramid, belonging to the most important members of the royal family.³⁰ All of them, however, were found in very disturbed contexts and in mastabas not belonging to the core of the cemetery certainly built under Khufu's reign but slightly to the south (Fig. 1).³¹ Indeed, three were found in mastaba G 7560 (two heads) and G 7650, while the last one (Boston 36-12-6) was found outside the tomb, laying in the street to the east of the large mastaba G 7510 of Ankhhaf.

The last head found at Giza comes from the Central Field, more specifically from the so-called 'Tomb of Khafre's Daughter' dated in a period spanning the reigns of Khufu and Khafre.³² This tomb, excavated by Selim Hassan at the end of the 1940s, had been penetrated by water and mud but was not plundered. The head was found in the middle of the burial chamber – not so far from the sarcophagus – lying on the floor in the mud that had filled the room.³³ Both for its archaeological context and for other arguments we will look at later in detail, it seems to be the only one from somewhere near the likely original location of the heads inside the burial chamber.³⁴

No tomb yielding a reserve head offered any other decoration or statuary³⁵ aside from slab stelae, an item of funerary equipment that, as clearly demonstrated by Peter Manuelian, seems to be related to the heads more than their number might imply.³⁶ Most of these stelae were found in cemetery G 1200, where only one reserve head was discovered, while only four complete or fragmentary slab stelae were found in cemetery G 4000 (Plate 7). However, nine other mastabas of this cemetery, which contained reserve heads, did also have empty emplacements for the stelae.³⁷

Thus, it is quite possible that all the mastabas once housed both stelae and heads – all the more so, as many heads would have probably been made in mud (two examples are known – see the heads mentioned in n. 6 in the present paper) and could not have survived intentional or occasional damage during the centuries.

Therefore, the reserve heads and slab stelae appear to have been closely tied to Khufu and to his ambitious architectural project to arrange all the members of his court in a rigid, schematic hierarchy for the hereafter.³⁸ From the titles engraved on slab stelae, we know that their owners did hold very important offices either in the bureaucratic-administrative sphere, or in the religious one.³⁹ Moreover, they were often also linked to the pharaoh by family ties, the title of *ss/ss-t nswt* being quite commonly found on them.⁴⁰

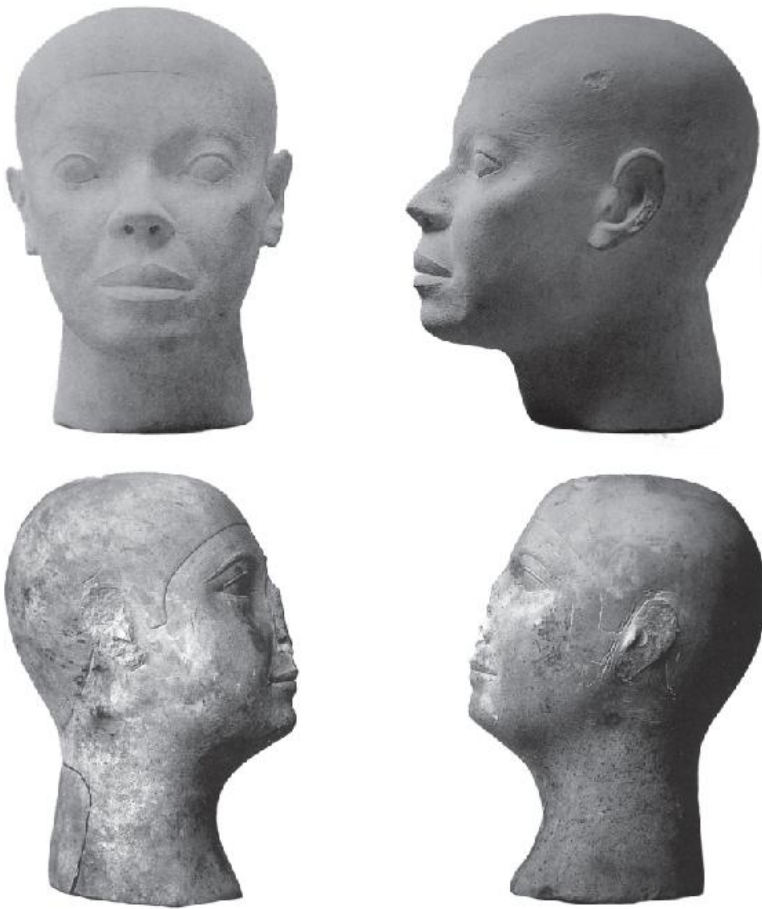
Their high rank seems to be further confirmed by the existence of very

few distinctive tombs in cemetery G 4000 such as the above-mentioned mastaba of Hemiunu. Among all priests and officials certainly dated to Khufu's reign, Hemiunu was the only one who possessed a 'standard' tomb with a serdab and a substantial decorative programme.⁴¹ We can only find similar, complete tombs endowed with large-scale statuary and elaborate figurative programmes in the eastern field, and these belong to some of the most important persons in the royal family like, for example, Kawab, Khafkhufu I, Herdjedef and Ankhhaf.⁴² Thus, all the elements of our analysis seem to lead to Khufu to whom the riddle of the reserve heads should be traced back.

Old and new theories on the value and meaning of the heads

To explain this puzzle, I take a step backward starting from the very designation of these sculptures as 'reserve heads'. This name, given by Borchardt at the beginning of the twentieth century⁴³ and still in use nowadays, seems to imply a positive meaning: their purpose was to protect and/or replace the actual perishable head of the deceased should it be lost or destroyed. This theory, however, is not particularly convincing since the representation of a complete human figure is quite the norm in the Egyptian statuary which generally avoided, for magico-religious reasons, the depiction of incomplete bodies.⁴⁴

Even the reconstruction of the heads' original position in the burial chamber gives rise to some doubts: Junker suggested the heads were placed in a niche in the burial chamber door blockage, very close to the shaft where many of them were found.⁴⁵ He also theorised that the round holes found in the stone portcullis slabs which sealed tomb entrances were for the reserve heads to look through as if it were a real serdab.⁴⁶ If so, however, the heads should have been placed in the superstructure of the tomb, and not in the substructure where they could have received no funerary cult and offerings.



*Fig. 2: Limestone reserve heads with completely different treatments of the ears: (above) the head Boston 14.719 from mastaba G 4440 with its ears intact; (below) the head Cairo JE 46217 from mastaba G 4140 with carefully chiselled off ears (after Tefnin, *Art et magie*, pl. VIII, XVIII)*

Furthermore, the portcullis slabs have a much longer history and wider distribution than the reserve heads themselves. The holes positioned at the top of these slabs, being often more than two, were almost certainly for insertion of the ropes used to lower the slabs into position in the tomb after the burial chamber was sealed.⁴⁷ Moreover, Junker's alleged niche in the door blockage does not have any parallel in Egyptian architecture and would also weaken the original purpose of such blockings.⁴⁸

Theories explaining the heads as prototypes of cartonnage mummy masks (and perhaps even of later anthropoid coffins of the First Intermediate Period)⁴⁹ or simply as sculptors' models like the famous Amarna pieces⁵⁰ also appear to be quite unlikely. On the one hand, the mummy mask was generally modelled directly onto the face of the deceased, a practise which is clearly supported by archaeological evidence from Maidum and Giza itself,

dating from the fourth dynasty.⁵¹ On the other hand, sculptors' models would have neither been made in the fine white limestone in which the reserve heads are carved⁵² nor would they have been brought into the tombs by their owners, where the heads would have been devoid of any cult significance while very dangerous for the deceased.⁵³ Moreover, it seems quite odd that these heads would have served as sculptors' models for people who did not have any other statue in their tombs where in fact the only type of 'sculpture' ever found is the slab stela.⁵⁴

The most controversial aspect of the topic, however, is the presence of evident 'scratches' on the heads that appear to have been made intentionally.⁵⁵ Of the fifteen heads that probably had sculpted ears, only one (Boston 14.719) has its ears still intact (Fig. 2 upper).⁵⁶

In some heads they have been carefully chiselled off close to the surface (Fig. 2 lower),⁵⁷ on others they seem to have been chipped away rather hastily (Fig. 3 upper).⁵⁸ Sometimes the ears were fashioned separately and attached with plaster or by means of small pegs⁵⁹ (Fig. 3 lower). The rest (about twelve) – also including the Dahshur head, the first of the series⁶⁰ – were created without any provision for ears (Fig. 4 upper).⁶¹ Another group of heads (about 15) show deep lines roughly chiselled into the surface, often extending from the crown of the head down to the base of the neck (Fig. 4 lower).⁶²

Many theories have been proposed to explain these features, without any being completely convincing. Millet suggested that these 'scratches' were made by the sculptors in removing the moulds from the reserve heads.⁶³ While this removal could have caused the vertical scratch on the heads, it could not have been responsible for the damage to the ears.

On other hand, Lacovara proposed that they were simply guidelines for sculptors for modelling the heads, comparable to the incised guidelines seen on the so-called 'trial pieces' of the Ptolemaic Period.⁶⁴ However, the guidelines on the Ptolemaic Period pieces were always finely and precisely carved on a flat, unfinished surface, not gouged into a finished one like most of the grooves on the reserve heads.



*Fig. 3: Two other examples of the different 'ritual' treatments of the heads: (above) the limestone head Berkeley 6-19767 from mastaba G 1203 with hastily chipped away ears; (below) the limestone head Boston 21.329 from mastaba G 4940 which shows considerable use of plaster and small pegs to attach the ears. (after Tefnin, *Art et magie*, pl. I, IX)*

A far more elaborate explanation has been set out in 1991 by Tefnin who believes that these scraps were 'ritual mutilations' intended to 'kill' the heads before placing them in the tombs in order to render them harmless to the deceased.⁶⁵ He likens this practise to the mutilating of dangerous hieroglyphs in the Pyramid Texts or of animal figurines deposited in the tombs of the First Intermediate Period and Middle Kingdom.⁶⁶

Tefnin also linked this ritual mutilation to a specific, somewhat enigmatic moment of the ritual of the 'Opening of the Mouth', a moment of extreme tension among the participants, one of whom wishes to strike the head of the deceased. The eldest son of the deceased or the sem-priest protests against

him: 'I shall not allow you to make my father's head become white' (*shd*). This 'whitened head', thus, is the reserve head, rendered so from the bleeding out of the head wounds.⁶⁷ According to Tefnin, this ritual, prophylactic violence to the reserve head had to be performed separate from, but still as a complement to, the actual, burial ceremony. In this sense he likens this practice to other execration rituals linked to the Osirian beliefs and well attested at Giza even in the New Kingdom.⁶⁸

Based on the first part of Tefnin's ritual mutilation theory, Bolshakov suggested that the heads could have been the first example of what seems to become the norm in the late fifth and sixth dynasty, when a number of tombs are provided with wall paintings in their substructures. Significant stylistic changes resulted during the reign of Khufu in the almost complete disappearance of statues in the superstructure, and so they have to be transferred to the burial chamber where, however, being dangerous in the vicinity of the dead man, they had to be made harmless in some way.⁶⁹

However, while convincingly explaining the mutilations, neither Tefnin nor Bolshakov have been able to clarify the meaning of the heads themselves and notably their placement in the substructure of the tomb where no other cult statue was kept. Nor have they come up with an explanation for the anomalous incompleteness of the sculptures.

Bolshakov's theory, stressing the *k3* value of all the Egyptian statues – including the heads⁷⁰ – seems to clash with the traditional funerary practices according to which the statue had to be placed in the tomb superstructure to be provided with both offerings and mortuary cult.⁷¹ Moreover, as to the position of the heads in the tombs, Bolshakov's theory replaces that of Junker, of the supposed niche between the burial chamber and the shaft, a theory which we have seen is not completely convincing for many reasons.

On the other hand, being aware of the weak points of his theory, Tefnin concludes:

On se posera bien sûr la question de savoir pourquoi, parmi tant de personnages illustres de l'entourage des grands Pharaons de la 4^e dynastie, certaines seulement « bénéficièrent » – si cela fut un bénéfice – d'une « tête magique ». La question reste sans réponse.⁷²

Very recently new interpretations have been set out by Catharine Roehrig and Nicholas Picardo.⁷³ The first one compares the reserve heads with the wooden life-size head emerging from a lily found in the tomb of Tutankhamun.⁷⁴ However, in spite of several similarities, the head of Tutankhamun implies a very clear solar symbolism which seems to be anachronistic for private people in the fourth dynasty, having been certainly a solely royal prerogative. Moreover, the head of the eighteenth dynasty king did not suffer any kind of 'mutilation' and was probably not put in the burial chamber.⁷⁵



*Fig. 4: Head Cairo JE 46216 (above) from mastaba G 4640 with no provision for ears; (below) two examples of the scratches exhibited by the heads on the rear: (left) Boston 21.329 from mastaba G 4940, with a vertical, deep furrow; (right) Cairo JE 37832 from mastaba D 38, with a circular, sharp groove (after Tefnin, *Art et magie*, pl. XII, XVI. Head Cairo JE 37832: photo courtesy Cairo Museum)*



Fig. 5: Two images of the Giza Necropolis seen from above. In both cases the movement of the shadow of Khufu's pyramid gradually permits the sunlight to illuminate the mastabas of the western cemetery

On other hand, Picardo, not dismissing older theories, in particular the relationship between the evolution of the funerary mummy masks and reserve heads, has suggested that the heads would have represented the first attempt to embody, in three-dimensional representation, the concept of the *b3*, which will be later more explicitly developed, both in literature and religion.⁷⁶ However, this theory gives rise to doubts: first of all, the concept of the private *b3* as depicted by Picardo is neither archaeologically nor epigraphically attested during the Old Kingdom and simply mirrors a much later tradition, particularly supported by the funerary texts of the New Kingdom. Moreover, although I would be prepared to admit the existence of the concept of the private *b3* in the fourth dynasty – a fact which is still far from clear⁷⁷ – we have to keep in mind, following Assmann, that the statues (and the reserve heads too in their being statues in a wider sense) were not linked to the *b3* but rather ‘served to attract and direct the indwelling Ka by preserving the physiognomy and assuring the recognizability of the subject’.⁷⁸

Additionally, over the whole of Egyptian history, the *b3* was mainly expressed via textual and two-dimensional means rather than statuary. Even when it was, as for example during the Meroitic Period in Lower Nubia, the *b3* statues were always put in the funerary chapel and not in the tomb substructure⁷⁹ where, as admitted by Picardo himself, ‘a head-only form of statuary could have also lend to “readings” that could encompass the semantic category of decapitation, implicating with it absolute dissolution after death. This notion will have been all the more unpleasant given that the reserve heads portrayed the deceased already in this dreaded state’.⁸⁰

Finally, this theory too, like all the others, does not explain the major mystery which has also been pointed out by Tefnin (see above): why did

eminent individuals of that period of the fourth dynasty not all have this kind of 'privileged' statue in their tomb? If the reserve heads would have functioned as *bs* statues or actual mummy mask-like statues of the deceased, we would expect to find them also in the main tombs of the Giza necropolis dated to Khufu's reign, namely the so-called 'Eastern Field'. However, as we have seen, the situation is very different.

Positive and negative implications: a new approach to the issue

Taking into account all the above-mentioned elements, and particularly the last question, I believe that we should consider another possibility, namely that the heads might have had a different, in some respects 'negative' meaning.

In other words, they could not have represented a positive funerary item for the deceased⁸¹ (or at least not completely positive) directed to replace or substitute the actual perishable head of the person, but rather a negative element intended to play down the resurrection power of the deceased linking it to an 'external factor' upon which their rebirth would have been depended. This element should be examined in the particular archaeological and historical-religious context in which the reserve heads were made, that is, the reign of Khufu.

Rainer Stadelmann has suggested that Khufu actually tried to achieve a merging with the sun-god during his lifetime.⁸² This new, absolute religious policy, probably culminating in his self-divinisation, seems to be demonstrated by many elements: the naming of his pyramid after the solar horizon (*sh*); the placing of the burial chamber within and not under the pyramid; the definitive establishment of the pyramid shape of the royal tomb in place of the old stepped shape, and last but not least the introduction by his son Djedefre of the *z3 Rr* title, which seems to have been meant, in its first formulation, very literally as 'Son of Re-(Khufu)'.⁸³ The building of a colossal statue, with its solar temple, dedicated to him – the Sphinx – seems to provide definitive confirmation of Stadelmann's theory.⁸⁴

There is room for thinking that the very bad reputation attributed to Khufu in later historical records was not pure chance. Herodotus's account particularly stresses the architectural difficulties in the building of Khufu's pyramid, which he reputes to have required an enormous cost in human lives, as the main reason for his bad reputation.⁸⁵ However, his tale does not completely fit what we know of the building techniques of the period and is even more unlikely if we consider that Khufu's father Sneferu was responsible for the construction of three great pyramids at least, whose overall volume is more than twice that of Khufu's pyramid. A later

misunderstanding of Khufu's Horus and Nebty names (*mḏdw* and *mḏdw r-nbty*) as ground for his bad reputation,⁸⁶ although plausible from the philological point of view, seems to imply a very complicated process and is not confirmed by reliable archaeological or historical evidence.⁸⁷

Thus, I think that a different explanation has to be sought for this bad reputation, which probably can be found precisely in Khufu's unusual and, in some respects, innovative religious policy, and in his attempt to identify himself with the sun-god changing the ordinary 'dogma' of kingship, as would be the case, *mutatis mutandis*, with Akhenaten over a thousand years later.

The archaeological data seems to lead in this direction: for the first time, a king intervened in the complete planning of the private tombs of his necropolis,⁸⁸ restricting the decoration only to the most important offering scene (the one represented on the slab stelae)⁸⁹ and allowing only the highest members of his court and family to have large scale and complete sculpture (like Hemiunu).⁹⁰ Even the main royal cemetery for the king's children, the 'Eastern field' G 7000, was originally erected and arranged in regular, anonymous rows of tombs not assigned to specific owners until the very end of Khufu's reign.⁹¹

Seen from the top of his solar horizon (the pyramid), the Giza necropolis in the time of Khufu would have reproduced, in the stone, the strict, hierarchical order of the state, levelling out the king's dignitaries by means of a clear standardisation of their houses for the hereafter as well as their funerary equipment.⁹² Only Khufu himself, in his rising at the horizon as sun-god/sun-king, could have resurrected his dignitaries, whose 'detached heads' would have been magically rejoined to the body. Only then would the owner of the head have recovered his physical integrity with the benefit, in the superstructure of the mastaba, of the funerary offerings represented on the slab stelae.

In this sense, the ritual mutilations of the heads could have been a precautionary meaning for the deceased (as proposed by Tefnin) as well as for the king himself, who would have severely limited, in this way, the actual life and autonomy of his officials in the otherworld. Schmidt also points out that the absence of explicit requests for invocation offerings (*prt hrw*) on the slab stelae could be a proof of Khufu's intentional suppression of the direct cult in private mastabas, a containment which was also accompanied by the reduction of space in tomb superstructure. This restrictive programme would have also included the hacking of the ears of the reserve heads in order to make them incapable of hearing offerings voiced from above.⁹³

Such a funerary belief does not appear entirely new since similar practices of head detachment and body dismembering are certainly documented, although with unknown implications, since the very early Predynastic Period in many Upper and Lower Egyptian cemeteries.⁹⁴

Moreover, a close architectural and archaeological parallel to Khufu's cemetery can also be found at Abydos in the so-called subsidiary burials of king Aha. The latter have not preserved any evidence of dismembering of the body or head detachment, either on the real mummies or on artefacts, since these subsidiary tombs were found empty.⁹⁵ Nonetheless, their anonymity and their rigid, geometric arrangement in the necropolis in close proximity to the tomb of their king-master seems to involve a similar, absolute idea of the king to whom all the minor tombs were evidently linked both in this world and in the afterworld.⁹⁶

This theory seems to be further supported by textual evidence: both the Pyramid and the Coffin Texts as well as the Westcar Papyrus provide some parallels. I start with the Pyramid Texts where many spells, dealing with the funerary rituals, appear to echo old practices of rejoining the head to the body before gaining access to the afterlife:⁹⁷

You apes who sever heads, Unis will pass by you in peace, for Unis has tied his head on his neck – and Unis's neck is on his torso – in his identity of Head-Tier, in which he tied the head of the Apis on him on the day of lassoing the longhorned bull. Since Unis has allowed them to eat from their cups and drink from their inundation, so shall Unis be protected in the same by those who see him. (PT 254: § 286–287)

Raise yourself, Teti, for you have received your head, your bones have been assembled for you, your limbs collected for you, the earth on your flesh cleared away from you and you have received your unmouldering bread and unrotting beer. (PT 373: § 654–655)

... awake Teti, Raise yourself ! Receive your head, collect your bones and clear away your dust. (PT 413: § 735–736)

Your head has been placed for you. Your head has been set to the bones for you. Give him his eyes, that he may be content. (PT 13–14: § 9)

Similar requests and magic formulae to avoid detachment of the head from the body are to be found in the Coffin Texts, in a non-royal context:⁹⁸

May you place for me my head upon my neck when you gather together life for the throat. May you make me into a spirit, may you enfold my members, may you knit on my face and build up my soul, may you save me from the fishers of Osiris who cut off heads, who sever necks, and who take souls (*bnw*) and spirit (*shw*) to the slaughterhouse of those who eat fresh (meat). My head will not be cut off; my neck will not be severed; my name will not be unknown among the spirits (*shw*)...Hail to you, Lady of Goodness who raised up the head of Osiris and who wailed over him in the Pure

Place in this your name of Headrest (?) which is under my head.
Place my head on my neck for me, gather up life for my throat for I
am in the following of Osiris among the blessed ones, the
possessors of offerings, for I have come equipped with my magic, I
will not die, breath will not be taken away from my nose and I am a
possessor of offerings. (CT 229: § 295–298)

Thus, both in royal and private contexts it is evident that the body lacking its head is completely deprived of all its vital forces and cannot achieve resurrection: only divine power, evoked through the proper magical formulae, could change this situation.

A quite ambiguous but interesting allusion to this practice can be perhaps found also in the Westcar Papyrus and particularly in the tale of the magician Djedi: although this tale is much later than the historical events it recounts and has a clearly literary aim, it might refer to ancient oral traditions of somewhat historical character. Asked by Khufu to sever and reattach a prisoner's head, the magician says:⁹⁹

Not indeed to a man, oh Sovereign (l.p.h.) my lord. For the doing of the like is not commanded unto the august cattle.

As implied by the text, such a thing could have only been done by a god;¹⁰⁰ but Khufu is a god or at least he wants to present himself as a true god in his pyramid-horizon.¹⁰¹ Of course we are dealing with pure speculation and this might be a mere coincidence that has nothing to do with the historical truth. However it is quite surprising that such a record had been linked to this king amongst dozens of possible names of Old Kingdom rulers as it is surprising that the tale of the divine birth of the three sons of Ra, although with predictable historical inaccuracies, was referred to the fifth dynasty kings who brought the solar cult to its climax with the building of the sun temples.¹⁰²

The story of Djedi also contains another intriguing detail that might be useful to understand where the heads were actually placed inside the burial chamber; a detail that seems to confirm the archaeological find in the above-mentioned 'Tomb of Khafre's daughter' (see above). The papyrus says:¹⁰³

So there was brought to him a goose and its head was severed.
Then a goose was placed on the western side of the pillared court
and its head on the eastern side of the pillared court. Djedi said his
say of magic words. The goose arose and waddled and likewise its
head. After the one (part) reached the other the goose stood up and
cackled.

It is likely, thus, that the heads were placed neither in the burial shaft (where many of them were found) nor in a supposed niche in the burial chamber door blockage but rather on the east side of the mortuary chamber, likely facing eastward towards the rising sun and waiting to be rejoined to

the mummified body placed in the sarcophagus on the west side of the chamber.¹⁰⁴

In particular, I suggest that all the heads (and in general all the statues like Hemiunu's as well as the funerary equipment endowed with autonomous vital forces like the slab stelae) would have been arranged facing toward Khufu's pyramid, which is to say towards the actual horizon, since all the mastabas of cemetery G 4000 where reserve heads were found were quite perfectly orientated along the same east-west axis as Khufu's pyramid (Fig. 1, Plate 7). Thus we can imagine that at dawn, the shadow of Khufu's pyramid, as it shrank, would have gradually allowed the sunlight to illuminate the mastabas, from the furthest to the nearest to his pyramid.¹⁰⁵ As it did so, each reserve head would have been 'resurrected' by the shining of its lord Khufu embodied by the pyramid.

Although not explicitly supported by literary or epigraphic evidence,¹⁰⁶ this symbolism perfectly fits the Egyptian religious beliefs and the absolute solar nature of the king in that period. Moreover, it seems to be also confirmed by the visual evidence in the western field at Giza where this optical phenomenon is clearly observable (Fig. 5), particularly during the solstices, crucial points of the Egyptian religious 'calendar'.¹⁰⁷

By means of a complex magico-religious system, strengthened by the peculiar, rigid plan of his necropolis, Khufu combined old traditions and new solar features to construct a mystical, absolute image of his person which finally integrated and indissolubly linked, in a single place, his destiny to that of his state and society.

On the other hand, his dignitaries, although 'levelled down' and 'made uniform' in their standardised mastabas, would have perpetually benefitted from the king's favour and of his funerary offerings consecrated through his shining glory.¹⁰⁸

Placed in the funerary chamber and ritually mutilated to make them harmless, the reserve heads were, thus, waiting for their resurrection in the shadow of the pyramid of their god-master.

¹ My gratitude goes to those friends and colleagues who kindly assisted this study: Rosanna Pirelli (University of Naples 'L'Orientale'; Director of the Italian Archaeological Centre in Cairo) for comments and suggestions during each stage of the study; Peter D. Manuelian (Museum of Fine Arts, Boston: Giza Archives Project: www.mfa.org/giza) for several references on the topic and for making information so easily accessible through the Giza Archives; Harold M. Hays (Leiden University) who revised the English version of this paper. Any mistake remains, of course, my own responsibility. Special thanks also go to Nigel and Helen Strudwick for inviting me to join this wonderful and interesting meeting in Cambridge.

² J. de Morgan, *Fouilles à Dahchour*, mars-juin 1894 (Vienne 1895), 9, fig.

³ The most comprehensive study of the subject is that by R. Tefnin, *Art et magie au temps des pyramides: L'énigme des têtes dites 'de remplacement'* (MonAeg 5; Bruxelles 1991). Further to its bibliography and according to their chronological order, it is worth mentioning here other, more recent papers specifically devoted to the topic: A. L. Kelley, 'Reserve Heads: A Review of the Evidence for their Placement and Function in the Old Kingdom Tombs', *JSSEA* 5 (1974), 6–12; C. Vandersleyen, 'Ersatzkopf', *LÄ* II (1977), 11–14; N. B. Millet, 'The Reserve Heads of the Old Kingdom', in W. K. Simpson and W. M. Davis (eds), *Studies in Ancient Egypt, the Aegean, and the Sudan. Essays in honor of Dows Dunham* (Boston 1981), 129–131; R. Tefnin, 'Les têtes magiques de Gizeh', *BSFE* 120 (1991), 25–37; H. Schmidt, 'Zur Determination und Ikonographie der sogenannten Ersatzköpfe', *SAK* 18 (1991), 331–348; E. Dubis, 'Some Remarks on Egyptian Reserve Heads', *Studies in Ancient Art and Civilization* 4 (1992), 19–25; D. Wildung, 'Zerstörungsfreie Untersuchungen an altägyptischen Objekten', *Jahrbuch Preußischer Kulturbesitz* 29 (1992), 133–156; F. Junge, 'Hum-iunu, Ankh-ha-ef und die sog. "Ersatzköpfe"', in R. Stadelmann and H. Sourouzzian (eds), *Kunst des Alten Reiches* (SDAIK 28; Mainz am Rhein 1995), 103–109; A. O. Bolshakov, 'New Observations on the Functions of the So-called Reserve Heads', in C. J. Eyre (ed.), *Seventh International Congress of Egyptologists. Cambridge, 3–9 September 1995. Abstracts of Papers* (Oxford 1995), 21–23; P. Lacovara, 'The Riddle of the Reserve Heads', *KMT* 8/4 (Winter 1997–98), 30–36; D. Wildung, 'Technologische Bemerkungen zur Kunst des Alten Reiches: Neue Fakten zu den Ersatzköpfen', in N. Grimal (ed.), *Les critères de datation stylistiques à l'Ancien Empire* (BdE 120; Le Caire 1998), 399–406; C. H. Roehrig, 'Reserve Heads: An Enigma of Old Kingdom Sculpture', in Do. Arnold (ed.), *Egyptian Art in the Age of the Pyramids* (New York 1999), 73–81; N. Millet, 'The Reserve Heads of the Old Kingdom: A Theory', in Arnold (ed.), *Egyptian Art*, 233–234; R. Tefnin, 'Reserve Heads', in D. B. Redford (ed.), *The Oxford Encyclopedia of Ancient Egypt* III (Cairo 2001), 145–147; N. S. Picardo, '“Semantic Homicide” and the So-called Reserve Heads: The Theme of Decapitation in Egyptian Funerary Religion and Some Implications for the Old Kingdom', *JARCE* 43 (2007), 221–252. A detailed analysis of the topic was also made by W. Stevenson Smith within the wider chapter about the sculpture of the fourth dynasty: W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom* (London 1946), 23–30, pl. 6–9 (from now on abbreviated as Smith, *HESPOK*).

⁴ It appears to be a trend in recent theories to attempt to approach the subject via later textual and/or archaeological sources. This is the case, for instance, for Roehrig, in Arnold (ed.), *Egyptian Art*, 77–78 and Picardo, *JARCE* 43 (2007), 238 ff which will be discussed in detail later. Also in the

present paper later texts will be occasionally used (Westcar Papyrus) but only because of their direct connection to the period/king we are dealing with, namely the fourth dynasty and Khufu in particular. As to the use of later sources, see also Tefnin, in Redford (ed.), *Oxford Encyclopedia* III, 146, although he does not always appear to adhere to these strictures.

⁵ P. D. Manuelian, *Mastabas of Nucleus Cemetery G 2100* (Giza Mastabas 8; Boston 2009) appeared after this article has been submitted and it has not been possible to consult it. I am aware that it contains further references to the 'Reserve Heads'.

⁶ Concerning the use of plaster, see for example the head coming from Abusir in the Berlin Museum (ÄM 16455): PM III², 342–343; L. Borchardt, *Das Grabdenkmal des Königs Ne-user-re* (WVDOG 7, Leipzig, 1907), 133, fig. 114; Tefnin, *Art et Magie*, 98–99, pl. II a–d (cat. 2); Wildung, in Grimal (ed.), *Critères de datation*, 399–403; the head from Giza, mastaba G 4940 (Boston Museum of Fine Arts, MFA 21.329): G. A. Reisner, *A History of the Giza Necropolis I* (Cambridge Mass. 1942), pl. 56; Tefnin, *Art et Magie*, 104–105 (pl. IXc–d – XIIa). Roehrig also maintains that several corrections in plaster were made on head 6-19767 in the Phoebe A. Hearst Museum of Anthropology at Berkeley: see Roehrig, in Arnold (ed.), *Egyptian Art*, 235 (cat. 46).

⁷ According to most scholars, we can certainly speak of real portraiture in the case of the reserve heads: see for example D. Dunham, 'Portraiture in Ancient Egypt', *BMFA* 41 (1943), 68–72; Smith, *HESPOK*, 28–29; Junge, in Stadelmann and Sourouzzian (eds), *Kunst*, 103–109; A. O. Bolshakov, *Man and his double in Egyptian Ideology of the Old Kingdom* (ÄAT 37; Wiesbaden 1997), 234–260, especially 257–258; E. R. Russmann, 'Portraiture', in E. R. Russmann (ed.), *Eternal Egypt: Masterworks of Ancient Art from the British Museum* (Berkeley-Los Angeles 2001), 32–39, particularly 33–35. Assmann goes a step further by saying that: 'The portrait has no apparent communicative and commemorative meaning. It is not meant as a "sign" but as a "body" to make a somewhat illegitimate use of the Platonic pun on *soma* (body) and *sema* (sign). "Body" and "sign", *soma* and *sema*, can also be regarded as the two foci on which the tomb as a "bifocal" structure is centered. ... The question arises as to which focus statuary belongs, and the answer can – with regard to the private sculpture of the Old Kingdom – obviously point only to the "body" focus. It is the body, and not the sign, which is extended by this type of tomb sculpture'. However, as we will see later, he seems wrong in comparing functionally the reserve heads and the mummy plaster masks of the same period. See J. Assmann, 'Preservation and Presentation of Self in Ancient Egyptian Portraiture', in P. D. Manuelian (ed.), *Studies in Honor of William Kelly Simpson I* (Boston 1996), 55–81 and particularly 58–62; the quote above is on p. 61. On other hand, Tefnin raises some doubt about the use of the term portraiture for the reserve heads because of their standardised nature as well

as magical power and significance. See Tefnin, *Art et Magie*, 64–73. Based on the ‘individuality’ of these heads and their life-size scale, Reisner and Junker also stressed the possible familial relationships among the subjects and/or their ethnic background. See G. A. Reisner, ‘Accessions to the Egyptian Department during 1914’, *BMFA* 13 (1915), 29–36, and H. Junker, *Gîza. Grabungen auf dem Friedhof des Alten Reiches bei den Pyramiden von Gîza I* (DAWW 69; Wien-Leipzig 1929), 63–65. This idea, however, must be discarded as clearly demonstrated by Tefnin, *Art et Magie*, 62–69 and Roehrig, in Arnold (ed.), *Egyptian Art*, 73–74, 238–241 (cat. 48–49).

⁸ The problem of colour on the heads’ surface is indeed still much debated: very tiny traces of paint are visible on at least five heads, namely Berkeley 6-19767, Cairo JE 46216 and JE 44974, Boston MFA 14.718 and MFA 21.328 (for the complete depiction of the heads see Tefnin, *Art et Magie*, 12, 97, 101–102, 103–104, 109–110, 112–113 [cat. 1, 5, 7, 14, 17]).

However, Roehrig casts many doubts upon a real, extensive treatment of the reserve heads using paint since traces of colour are never visible in those points where one would expect to find them, viz. in the deep lines around the eyes and the nostrils and at the corners of the mouth. See Roehrig, in Arnold (ed.), *Egyptian Art*, 237, n. 2. Tefnin does also agree with this statement: Tefnin, in Redford (ed.), *Oxford Encyclopedia* III, 145.

⁹ For more details see also Smith, *HESPOK*, 25–28, Tefnin, *Art et Magie*, 19–39; Junge, in Stadelmann and Sourouzzian (eds), *Kunst*, 103–109; Millet, in Arnold (ed.), *Egyptian Art*, 233–234.

¹⁰ Vandersleyen, in *LÄ* II (1977), 11; Millet, in Simpson and Davis (eds), *Studies in Ancient Egypt*, 130; Tefnin, *Art et Magie*, 14–15; Millet, in Arnold (ed.), *Egyptian Art*, 233; Tefnin, in Redford (ed.), *Oxford Encyclopedia* III, 145. On the contrary, Roehrig argues that this is only a photographic effect: ‘The chin of the present example [Boston MFA 21.328] and a number of others is slightly raised, a feature that has led some scholars to assert that all reserve heads gaze upward. However, profile views of this piece and nearly every other reserve head reveal that they look straight ahead even if the chin is raised.’ and ‘Many photographs of Egyptian Museum, Cairo, JE 46217, the head of Meret-ites, are taken from below eye level and this creates the impression that she looks up. However, when the piece is seen in profile, she appears to look straight ahead’ (Roehrig, in Arnold (ed.), *Egyptian Art*, 236, 237 (n. 7)).

¹¹ Contrary to Reisner’s and Smith’s opinion (Reisner, *BMFA* 13 (1915), 32–35; Reisner, *Giza Necropolis* I, 64–65 and pls 52–55; Smith, *HESPOK*, 28–29; in this sense see also Assmann, in Manuelian (ed.), *Studies Simpson* I, 58–60, figs 3–7; Picardo, *JARCE* 43 (2007), 228) no head shows clear indication of whether male or female is represented. Indeed neither the head from the Roemer- und Pelizaeus-Museum in Hildesheim (Inv. 2384) nor that from the Cairo Egyptian Museum (JE 46217) could have been certainly

attributed to a female without the other explicit, archaeological references found in the respective tombs, i.e. the slab stelae with the name of the tomb's owner (Roehrig, in Arnold (ed.), *Egyptian Art*, 237, n. 1). Based on Reisner's suggestions, Junker proposed identifying two broad groups, one of more noble and one of more peasant origin (Junker, *Giza I*, 63–65). This idea is also very problematic and was criticised by Tefnin, *Art et Magie*, 62–69. For more details on the two above-mentioned heads see also Tefnin, *Art et Magie*, 113–134, 123–124 (cat. 18, 32).

¹² The bibliography on this topic is extensive. Two of the most complete studies on portraiture in ancient Egypt are K. Lange, *Ägyptische Bildnis* (Munich 1957); E. Buschor, *Das Porträt. Bildniswege und Bildnisstufen in fünf Jahrtausenden* (Munich 1960). However, in this context, it is worth mentioning at least other three studies particularly devoted to the portrait in the Old Kingdom, viz. Dunham, *BMFA* 41 (1943), 68–72; A. O. Bolshakov, 'The Ideology of the Old Kingdom Portrait', *GM* 117/118 (1990), 89–142, particularly 126–134; M. Eaton-Krauss, *The representation of statuary in private tombs of the Old Kingdom* (ÄA 39; Wiesbaden 1984).

¹³ In this sense, see also Schmidt, *SAK* 18 (1991), 337–340; Dubis, *Studies in Ancient Art and Civilization* 4 (1992), 22–23. On the contrary, Smith suggested distinct sculptural schools as reason of their slightly different treatment (Smith, *HESPOK*, 28–29), an argument followed with some distinctions also by Roehrig and Millet, in Arnold (ed.), *Egyptian Art*, 73–74, 234.

¹⁴ For a complete list of the heads see Tefnin, *Art et Magie*, 149–150. This list omits the head 'Cairo JE 89611' (which is, however, mentioned in the catalogue with no. 22) since it comes from somewhere in the Giza necropolis (see PM III², 305). This head will not be taken into account in this paper because of the lack of any information about its unearthing in the Giza necropolis, although it shows clear similarities (and thus probably also the same chronology) with the other heads which we consider. To these we must add one found in 1989 at Lisht by Dieter and Dorothea Arnold and dated to the early twelfth dynasty. This head, however, is completely different from the others as to both shape and size: it is only 10.25 cm high and seems to have been part of the debris from a sculptor's workshop that was used as fill for a burial shaft. See Roehrig, in Arnold (ed.), *Egyptian Art*, 79, n. 2.

¹⁵ Tefnin, *Art et Magie*, 97–129 with further bibliography.

¹⁶ Tefnin, *Art et Magie*, 121–122, 125–126 (cat. 30, 34).

¹⁷ See n. 4 for the bibliography.

¹⁸ A. Fakhry, *The Monuments of Snefru at Dahshur*, I. *The Bent Pyramid* (Le Caire 1959), 30; Tefnin, *Art et Magie*, 120 (cat. 27).

¹⁹ Bolshakov, in Eyre (ed.), *Seventh International Congress*, 21. As a matter of fact, no head was found *in situ* and this leads us to reject Bolshakov's idea of a reuse of the head. Nevertheless, the head from

Saqqara raises many doubts because of its different size (only 19.5 cm high) and confused archaeological context. Although the head should be in the Egyptian Museum in Cairo, no photo and/or catalogue number exists for this artefact. Roehrig suggests that it could have been a sculptor's trial piece that was discarded and became mingled with debris used to fill the shaft as in the case of the Lisht head (Roehrig, in Arnold (ed.), *Egyptian Art*, 80, n. 22). As for the head from Abusir, it seems to be an isolated revival of the old fourth dynasty tradition. The reasons for such a 'ideological reuse' may lay in the strong solar aspect of the reign of Niuserre to which the head dates, an imprint which is directly linked in many ways to Khufu and his solar ideology; see H. Goedicke, 'Abusir – Saqqara – Giza', in M. Bårta, J. Krejčí (eds), *Abusir and Saqqara in the Year 2000* (ArOr Suppl. IX, Prague 2000), 405–408; M. Nuzzolo, 'The Sun Temples of the V Dynasty: a reassessment', *SAK* 36 (2007), 228–289, 238–240.

²⁰ See n. 1 for the bibliography and Tefnin, *Art et Magie*, 108 (cat. 12).

²¹ Roehrig, in Arnold (ed.), *Egyptian Art*, 74 and n. 16. She also stresses the close similarities between the head from Dahshur and Giza heads Berkeley 6-19767 and Cairo JE 46217 (Tefnin, *Art et Magie*, cat. 1, 18). According to her, these three heads may have been likely the first ones of the series, thus confirming the short chronological separation between the Dahshur head and the Giza ones. Stadelmann also pointed out that a completely new artistic style ('Strenges Stil') was already developing in Dahshur during the last years of Snefru's reign. This style would have continued well into Khufu's reign before changing again during that of Khafre. See R. Stadelmann, 'Der Strenges Stil der frühen Vierten Dynastie', in Stadelmann and Sourouzian (eds), *Kunst*, 155–166.

²² Tefnin, *Art et Magie*, 149–150.

²³ Reisner, *BMFA* 13 (1915), 29–36; Reisner, *Giza Necropolis* I, 13–17, 66–74, 85–176, pls 21–22, 34–35, 48–50, 52–56. He called these three group of cemeteries, together with the Eastern Field G 7000, the 'Nucleus Cemetery' since they form the oldest parts of the Giza necropolis. As to the chronology of the Giza necropolis and recent attempts to reassess the whole archaeological material, see M. Baud, *Famille royale et pouvoir sous l'Ancien Empire égyptien* (BdE 126; Le Caire 1999), 29–56; P. D. Manuelian, 'A re-examination of Reisner's Nucleus cemetery concept at Giza. Preliminary remarks on Cemetery G 2100', in M. Bårta (ed.), *The Old Kingdom Art and Archaeology. Proceedings of the Conference held in Prague, May 31 – June 4, 2004* (Prague 2006), 221–230, with further bibliography; P. D. Manuelian, 'On the Early History of Giza: the "Lost" Wadi Cemetery (Giza Archives Gleanings, III)', *JEA* 95 (2009), 105–140. Most of the information concerning the discovery of the reserve heads in the cemeteries near the pyramid of Khufu (Nucleus Cemetery) are to be found in Junker, *Gîza* I, although other volumes also contain important

information. A brief account of the above-mentioned publication can be also found in Junker, 'The Austrian Expedition, 1914', *JEA* 1 (1914), 249–253.

²⁴ Tefnin, *Art et Magie*, 97–98, 99–100 (cat. 1, 3). For the reserve head from tomb G 1203, see also Roehrig, in Arnold (ed.), *Egyptian Art*, 235–236 (cat. 46)

²⁵ Tefnin, *Art et Magie*, 100–129 (cat. 4–8, 10, 14–19, 23, 25–26, 28–29, 31–33, 36–38). See also Roehrig, in Arnold (ed.), *Egyptian Art*, 236–241 (cat. 47–49)

²⁶ See also Roehrig, in Arnold (ed.), *Egyptian Art*, 75–77. For the building phases of cemetery G 4000 see also P. Jánosi, 'The Tombs of Officials. Houses of Eternity', in Arnold (ed.), *Egyptian Art*, 29–32, figs 13–15.

²⁷ Although the chronology of the mastaba of Hemiunu is still discussed by scholars, it seems to belong to the late reign of Khufu. See in particular Junker, *Giza I*, 132–162, especially 157–161; N. Strudwick, *The Administration of Egypt in the Old Kingdom: The Highest Titles and Their Holders* (London 1985), 117 (cat. 96). The style of his famous statue seems to further support this dating: see Junge, in Stadelmann and Sourouzzian (eds), *Kunst*, 103–109; Marsha Hill, 'Hemiunu seated', in Arnold (ed.), *Egyptian Art*, 229–231 (cat. 44) with further bibliography.

²⁸ Tefnin, *Art et Magie*, 108–109, 116 (cat. 13, 21).

²⁹ On the basis of its archaeological context, Reisner was firmly convinced that the head could not have been come from the burial chamber of tomb G 5020 but belonged to a neighbouring mastaba of cemetery G 4000, having been later thrown into the shaft of the other tomb with the debris (Reisner, *Giza Necropolis I*, 466, pl. 56a).

³⁰ See n. 21 in the present paper for the bibliography. See also Baud, *Famille et pouvoir*, 62–63.

³¹ See Tefnin, *Art et Magie*, 106, 107, 115, 126–127 (cat. 9, 11, 20, 35) with further bibliography. For their placement in the necropolis, see Tefnin, *Art et Magie*, pl. XXXII, to be compared with PM III², pl. XVIII.

³² Tefnin, *Art et Magie*, 118–119 (cat. 24).

³³ S. Hassan, *Excavations at Giza VII. 1935–1936. The Mastabas of the Seventh Season and Their Description* (Cairo 1953), 4–5, pls III–IVa.

³⁴ See also Picardo, *JARCE* 43 (2007), 229.

³⁵ All these tombs also lack a serdab: M. Bárta, 'Serdab and Statue Placement in the Private Tombs down to the Fourth Dynasty', *MDAIK* 54 (1998), 65–75, especially 70 ff. See also Jánosi, in Arnold (ed.), *Egyptian Art*, 29–32, fig. 14–15.

³⁶ See P. D. Manuelian, 'The Problem of the Giza Slab Stelae', in H. Guksch and D. Polz (eds), *Stationen. Beiträge zur Kulturgeschichte Ägyptens. Rainer Stadelmann gewidmet* (Mainz 1998), 115–134, especially 117–120, fig. 2.

- ³⁷ For the complete catalogue of the stelae see P. D. Manuelian, *Slab Stelae of the Giza Necropolis* (New Haven-Philadelphia 2003) 1–108. A complete, updated plan of the whole corpus of slab stelae, empty emplacements and reserve heads is also to be found in Manuelian, *Slab Stelae*, figs 175, 210.
- ³⁸ R. Stadelmann, 'Builders of the Pyramids', in J. M. Sasson (ed.), *Civilizations of the Ancient Near East II* (New York 1995), 719–734, particularly 730–731. Helck speaks of 'royal dicta' by the king trying to reduce the funerary equipment of the administration in order to maintain focus on and preserve the essential uniqueness of the monarchy (see W. Helck, *Politische Gegensätze im alten Ägypten* (HÄB 23; Hildesheim 1986), 19–26). Manuelian also stresses the 'prefabricated' character of the tombs of the officials in Giza, probably constructed 'ownerless' and only later assigned by the king to specific dignitaries. See Manuelian, in Guksch and Polz (eds), *Stationen*, 132.
- ³⁹ Manuelian, in Guksch and Polz (eds), *Stationen*, 125–127. Their upper social status is also testified by the long, rich linen-list: see Manuelian, *Slab Stelae*, 153–160.
- ⁴⁰ According to Schmitz, beginning with the fourth dynasty these titles did not entail any real blood relationship between their holders and the king, having been given by the ruler simply as a marker of social elevation and favour (B. Schmitz, *Untersuchungen zum Titel sA-njswt 'Königssohn'* (Bonn 1976), 17–22). However, Baud has pointed out the great uncertainty of the archaeological documentation of the period which should lead us to a more cautious approach to the topic: Baud, *Famille et pouvoir*, 162–189.
- ⁴¹ According to Junker the tomb of Hemiuunu underwent a significant enlargement in a second building phase, receiving two serdabs – one of them endowed with his famous statue – and a long narrow corridor – with two false doors – on its west side. See Junker, *Giza I*, 132 ff, figs 18–20, pls 15–16, 18. Therefore the original project of the mastaba may have been completed slightly after or at the very end of Khufu's reign with the addition of a sculptural as well as a figurative programme which had not been originally envisaged. This is all the more important if we consider that Hemiuunu is the only holder of the title *ss-nswt n hr-f* ('son of the king's body') among males buried in cemetery G 4000.
- ⁴² Reisner, *Giza Necropolis I*, 15–17, 70–75, 115–120, 209–211; W. K. Simpson, *The Mastabas of Kawab, Khafkhufu I and II* (Giza Mastabas 3; Boston 1978). As far as the chronology of the mastaba of Ankhhaf (G 7510) is concerned, many architectural and archaeological elements seem to suggest a dating well into the reign of Khufu: see Strudwick, *Administration*, 77–78 (cat. 34); Baud, *Famille et pouvoir*, 424–425 (cat. 35). This dating seems to be also confirmed by the style of his famous bust. Contrary to this opinion is Reisner, *Giza Necropolis I*, 75, 212, 333, who dated his tomb to the reign of Khafre. For a brief overview of the history of the 'Eastern Cemetery' see also W. S. Smith, 'Inscriptional Evidence for

the History of the Fourth Dynasty', *JNES* 11 (1952), 113–128, particularly 127–128; Jánosi, in Arnold (ed.), *Egyptian Art*, 29–32.

⁴³ Borchardt, *Ne-user-re*^f, 133, named them 'Ersatzköpfe'. His idea was later largely developed by Junker, *Gîza* I, 57–61.

⁴⁴ W. S. Smith, *The Art and Architecture of Ancient Egypt* (2nd ed. revised by W. K. Simpson, London 1981), 57; See also n. 12 in the present paper.

⁴⁵ Junker, *Gîza* I, 57–61 and pl. 10. See also Jánosi, in Arnold (ed.), *Egyptian Art*, 29, fig. 14.

⁴⁶ Junker, *Gîza* I, 144 ff, 205.

⁴⁷ Lacovara, *KMT* 8/4 (Winter 1997–98), 31.

⁴⁸ Dubis, *Studies in Ancient Art and Civilization* 4 (1992), 24.

⁴⁹ Smith, *HESPOK*, 24–25; Kelley, *JSSEA* 5 (1974), 9–10. The latter idea is halfway between Smith's theory and Millet's one (see next note for bibliographical references).

⁵⁰ Millet, in Simpson and Davis (eds), *Studies in Ancient Egypt*, 129–131; id., in Arnold (ed.), *Egyptian Art*, 233–234.

⁵¹ S. Ikram, A. Dodson, *The Mummy in Ancient Egypt: Equipping the Dead for Eternity* (London 1998), 166–167. Very critical positions are also expressed by E. Brovarski, 'Reserve Head', in S. D' Auria, P. Lacovara and C. H. Roehrig (eds), *Mummies & Magic: The Funerary Arts of Ancient Egypt* (Boston 1988), 83; N. Tacke, 'Die Entwicklung der Mumienmaske im Alten Reich', *MDAIK* 52 (1996), 307–336, especially 315; Roehrig, 'Mummy Mask and Body Covering', in Arnold (ed.), *Egyptian Art*, 476–477 (cat. 197).

⁵² Roehrig, in Arnold (ed.), *Egyptian Art*, 78.

⁵³ Tefnin, *Art et Magie*, 50–52; Bolshakov, in Eyre (ed.), *Seventh International Congress*, 22.

⁵⁴ Tefnin, in Redford (ed.), *Oxford Encyclopedia* III, 146.

⁵⁵ See Tefnin, *Art et Magie*, 19–39 for a complete catalogue of the mutilations.

⁵⁶ Tefnin, *Art et Magie*, 102–103 (cat. 6); Roehrig, in Arnold (ed.), *Egyptian Art*, 238–239 (cat. 48).

⁵⁷ See for example the heads Vienna 7787 and Cairo JE 46217: Tefnin, *Art et Magie*, 113–114, 127–128 (cat. 18, 36); Roehrig, in Arnold (ed.), *Egyptian Art*, 240–241 (cat. 49).

⁵⁸ See for example the heads Berkeley 6-19767, and Boston 21.328: Tefnin, *Art et Magie*, 97–98, 103–104 (cat. 1, 5, 7); Roehrig, in Arnold (ed.), *Egyptian Art*, 235–237 (cat. 46–47).

⁵⁹ See for example the heads Boston 21.329 and Cairo JE 46218: Tefnin, *Art et Magie*, 104–105, 114–115 (cat. 8, 19).

⁶⁰ Tefnin, *Art et Magie*, 108 (cat. 12)

⁶¹ See for example the head Cairo JE 46216: Tefnin, *Art et Magie*, 112–113 (cat. 17).

⁶² See for example the heads Cairo JE 37832, Boston 14.718 and Boston 21.329: Tefnin, *Art et Magie*, 101–102, 104–105, 108–109, (cat. 5, 8, 13). Although largely ruined, the head Hildesheim 2384 also shows a deep vertical line along the nape of the neck: see Tefnin, *Art et Magie*, 123–124 (cat. 32).

⁶³ See n. 50.

⁶⁴ Lacovara, *KMT* 8/4 (Winter 1997–98), 35–36.

⁶⁵ Tefnin, *Art et Magie*, 75–95. A brief synthesis will be found in Tefnin, in Redford (ed.), *Oxford Encyclopedia* III, 146–147.

⁶⁶ Tefnin, *Art et Magie*, 78–83.

⁶⁷ Bleeding from the wound would have rendered the head (and the body as a whole) deadly pale and anaemic, causing the head/person to die. For further details on the ritual and its symbolic implications see Tefnin, *BSFE* 120 (1991), 25–37, especially 31–33.

⁶⁸ Tefnin, in Redford (ed.), *Oxford Encyclopedia* III, 146–147. As to the later execration rituals see also G. Posener, ‘Les empreintes magiques de Gizeh et les morts dangereux’, *MDAIK* 16 (1958), 252–270. For a different understanding of the above-mentioned passage of the ritual of the ‘Opening of the Mouth’ see E. Otto, *Das ägyptische Mundöffnungsritual* II (ÄA 3; Wiesbaden 1960), particularly 67–68. A very different reading of the ritual is offered by A. M. Roth, ‘The *psḥ-kf* and the “Opening of the Mouth” Ceremony: a Ritual of Birth and Rebirth’, *JEA* 78 (1992), 113–147; id., ‘Fingers, Stars and the “Opening of the Mouth”: the Nature and Function of the *ntrw* Blades’, *JEA* 79 (1993), 57–79.

⁶⁹ Bolshakov, in Eyre (ed.), *Seventh International Congress*, 22. See also Bolshakov, *Man and his Double*, 37–39.

⁷⁰ This idea is also supported by Assmann, in Manuelian (ed.), *Studies Simpson* I, 61–62; Junge, in Stadelmann and Sourouzzian (eds), *Kunst*, 103–109, particularly 108–109. The latter also suggests that the heads simply functioned as gradual attempts to render the human figure, i.e. actual, although truncated, statues like the bust of Ankhhaf and/or the ‘normal’ statue of Hemiunu. In doing so, however, the theory does not account at all for the ritual treatment of the heads and for this reason it seems to be untenable.

⁷¹ See also Picardo, *JARCE* 43 (2007), 238–239.

⁷² Tefnin, *BSFE* 120 (1991), 36.

⁷³ Respectively Roehrig, in Arnold (ed.), *Egyptian Art*, 73–81; Picardo, *JARCE* 43 (2007), 221–252. I am very grateful to the latter author for sending me the complete version of his paper before its publication.

⁷⁴ Roehrig, in Arnold (ed.), *Egyptian Art*, 77–78.

⁷⁵ The precise find spot of the head inside the tomb is still questioned by scholars. However, there is room for thinking that its original placement may have been the entrance corridor of the tomb: see A. Wiese,

‘Tutankhamun – Just a Conventional “Tomb Treasure” of the 18th Dynasty?’ in A. Wiese and A. Brodbeck (eds), *Tutankhamun: The Golden Beyond: Tomb Treasures from the Valley of the Kings* (Basel 2004), 83–127, especially 85–86.

⁷⁶ Picardo, *JARCE* 43 (2007), 238–252.

⁷⁷ The most comprehensive study is L. V. Žabkar, *A Study of the Ba Concept in Ancient Egyptian Texts* (SAOC 34; Chicago 1968). He argues that the first attempt to adapt the concept of the *bs* to private people dates back to the late Old Kingdom, possibly the end of the fifth dynasty. However, the first real example is sixth dynasty (Žabkar, *Ba Concept*, 60–61, 76). On the contrary, Altenmüller suggests that in the whole Old Kingdom the concept of both royal and private *bs* had not yet been completely elaborated (H. Altenmüller, ‘Sein Ba möge fort dauern bei Gott’, *SAK* 20 (1993), 1–15). More recently, starting from different points, Allen and Hays have demonstrated that many aspect of the royal afterlife were ‘shifted’ to the private context well into the fifth dynasty, particularly concerning the funerary offering formulae and rituals. (J. P. Allen, ‘Some aspects of the non-royal afterlife in the Old Kingdom’, in Bárta (ed.), *Old Kingdom Art and Archaeology*, 9–17; H. M. Hays, ‘The Death of the Democratisation of the Afterlife’, in the present volume). However, this phenomenon did not imply either any explicit elaboration of the concept of the *bs* or any representation of it, even less in its much later human-headed bird form.

⁷⁸ Assmann, in Manuelian (ed.), *Studies Simpson* I, 61–62; quotation from 62; The German scholar, however, continues by saying: ‘There does not seem to be any functional difference between reserve heads, busts and entire statues’. The latter opinion is not adopted here. On the relationship between statue and *ks*, see also Bolshakov, *Man and his Double*, 106–110, 152–157.

⁷⁹ See for example S. Wenig (ed.), *The Arts of Ancient Nubia and Sudan II. The Catalogue* (New York 1978), 89–90, 227–232 (cat 151–159). Moreover, these *bs* statues were always complete sculptures and never head-only statues. It is also worth noting that real reserve heads, belonging to the same period as the *bs* statues, were found in Nubia, and they show somewhat enigmatic signs on the face usually interpreted as ‘scarification’: see Wenig (ed.), *The Catalogue*, 89, 232–234 (cat. 160).

⁸⁰ Picardo, *JARCE* 43 (2007), 251.

⁸¹ Smith particularly stressed the royal favour as reason for the placement of a reserve head in the tomb while Dubis speaks of gifts to the tomb owner from the royal workshops to the tomb owner: see Smith, *HESPOK*, 25; Dubis, *Studies in Ancient Art and Civilization* 4 (1992), 23.

⁸² R. Stadelmann, *Die ägyptischen Pyramiden. Vom Ziegelbau zum Weltwunder* (Mainz 1985), 110–126.

⁸³ Stadelmann, *Pyramiden*, 125–126. See also Z. Hawass, ‘The Programs of

the Royal Funerary Complexes of the Fourth Dynasty', in D. O'Connor and D. P. Silverman (eds), *Ancient Egyptian Kingship* (Leiden–New York–Köln 1995), 221–255, especially 227–228.

⁸⁴ Stadelmann, 'The Great Sphinx of Giza', in Z. Hawass (ed.), *Egyptology at the dawn of the twenty-first century: proceedings of the eighth international congress of Egyptologists, Cairo 2000 I: Archaeology* (Cairo 2003), 464–469. Stadelmann's theory is not supported by most scholars who strongly maintain that the Sphinx was built by and dedicated to Khafre. For a complete discussion of the issue, see Nuzzolo, *SAK* 36 (2007), 238, n. 104.

⁸⁵ Herodotus II, 124–6: A. B. Lloyd, *Herodotus Book II. Commentary* 99–182 (Leiden 1988), 62–63. Wildung also stresses the religious impiety of the king as a explanation for his bad reputation: trying to reach the gods with the impressiveness of his pyramid, Khufu was guilty of hubris, an unacceptable behaviour for the Greek religious mentality, particularly by a king (D. Wildung, *Die Rolle ägyptischer Könige im Bewusstsein ihrer Nachwelt* (MÄS 17, Berlin 1969), 188). Likewise, there is Herodotus' tale of Khufu's daughter who was sent to a brothel with instructions to charge a certain sum to complete the building of the pyramid (Herodotus II, 126; see above for the bibliography). The ultimate aim of the Greek writer was probably to depict Khufu as a cruel, inhuman king.

⁸⁶ M. Baud, 'Une Ephitete de Radjedef et la prétendue tyrannie de Cheops', *BIFAO* 98 (1998), 15–30, especially 25–26. Quite the same idea was also supported by S. Morenz, 'Traditionen um Kheops. Beiträge zur überlieferungsgeschichtlichen Methode in der Ägyptologie', *ZÄS* 97 (1971), 111–118; E. Graefe, 'Die Gute Reputation des Königs Snofru', in S. Israelit-Groll (ed.), *Studies in Egyptology presented to Miriam Lichtheim* I (Jerusalem 1990), 258–259

⁸⁷ For a different and sounder interpretation of Khufu's names see R. Gundlach, *Der Pharao und sein Staat. Die Grundlegung der Ägyptischen Königstitulaturen im 4. und 3. Jahrtausend* (Darmstadt 1998), 167–169. The reading of Khufu's titles suggested by Gundlach also fits better the royal protocol of Khufu's son, Djedefre, the traditional interpretation of which is not completely convincing. Taking into account their strict religious and historical relationship, further documented by the aforementioned introduction of the *z3 Rr* title, the titles of the two kings as a whole would, thus, receive a complete and plausible explanation. On the fourth dynasty royal titulary see also V. Dobrev, 'Considérations sur les titulatures des rois de la IVe dynastie égyptienne', *BIFAO* 93 (1993), 179–204. As to the meaning of Khufu's Horus and Nebty names, however, the author writes: 'le sens du mot *mild* dans le Nom de *Nb.ty* de Khoufou nous échappe complètement' (quotation from p. 188).

⁸⁸ A. M. Roth, 'Social Change in the Fourth Dynasty: The Spatial Organization of Pyramids, Tombs, and Cemeteries', *JARCE* 30 (1993), 33–

55, especially 49–50.

⁸⁹ Manuelian, in Guksch and Polz (eds), *Stationen*, 132; Bolshakov, *Man and his Double*, 37–39.

⁹⁰ It is also worth noting that the architectural simplicity and the bare style of the mastabas of Khufu's reign find a close parallel in the overall austerity of the royal complex where the funerary temple – although probably largely endowed with decorations (see D. Arnold, 'Royal Cult Complexes of the Old and Middle Kingdoms', in B. E. Shafer (ed.), *Temples of Ancient Egypt* (London, New York 1997), 51 and the article by L. Flentye, 'The Decorative Programs of the Pyramid Complexes of Khufu and Khafra at Giza', in the present volume) – has a really limited space, the accent being mainly focused on the architectonic impressiveness and monumentality of the pyramid. This would have clearly put the attention solely on the king and the uniqueness of the monarchy. After the reign of Khufu this trend gradually changed, with a particular stress on the decorative programme of the funerary temples. For the evolution of the pyramid temple in the fourth dynasty, see also R. Stadelmann, 'The development of the pyramid temple in the Fourth Dynasty', in S. Quirke (ed.), *The Temple in Egypt: new discoveries and recent research* (London 1997), 1–16. As to the statue of Hemunu and the chronology of his tomb see also nn 27 and 41 in the present paper.

⁹¹ Reisner, *Giza Necropolis* I, 4–9, 39–56, 66–77, 80–81, 296–300; Jánosi, in Arnold (ed.), *Egyptian Art*, 32.

⁹² Stadelmann, in Sasson (ed.), *Civilizations* II, 730.

⁹³ Schmidt, *SAK* 18 (1991), 338–340. A similar idea as to the mutilation of the ears was also supported by Tefnin, *Art et Magie*, 85–87; id., in Redford (ed.), *Oxford Encyclopedia* III, 147.

⁹⁴ The bibliography on this topic is extensive: some examples are F. A. Hassan, 'Between Man and Goddess: The Fear of Nothing and Dismemberment', in S. Hendrickx, R. Friedman, K. M. Cialowicz, M. Chlodnicki (eds), *Egypt at its Origins: Studies in Memory of Barbara Adams. Proceedings of Conference 'Origin of the State. Predynastic and Early Dynastic Egypt', Krakow, 28th August – 1st September 2002* (Leuven 2004), 779–799, especially 792–796; D. Wengrow and J. Baines, 'Images, Human Bodies and the Ritual Construction of Memory in Late Predynastic Egypt', in Hendrickx et al. (eds), *Egypt at its Origins*, 1079–1113, especially 1097–1103.

⁹⁵ T. A. H. Wilkinson, *Early Dynastic Egypt* (London-New York 1999), 230–236, with further bibliography.

⁹⁶ In this sense, see also Roth, *JARCE* 30 (1993), 50. According to O'Connor the main difference between the two types of planned, regular cemeteries is that the fourth dynasty mastabas were arranged in patterns centred upon the pyramids while the predynastic subsidiary tombs were ordered in clusters around the main royal tomb. See D. O'Connor, 'New

Funerary Enclosures (*Talbezirke*) of the Early Dynastic Period at Abydos', *JARCE* 26 (1989), 51–86, particularly 59, n. 23. However, this does not seem to be completely true for the tomb of Aha which resembles (with its subsidiary tombs) the planned, rigid Giza cemetery in Khufu's time more than the other predynastic royal tombs. See also Wilkinson, *Early Dynastic Egypt*, 230–232 and fig. 7.1.

⁹⁷ For the translations see J. P. Allen, *The Ancient Egyptian Pyramid Texts* (Writings from the Ancient World 23; Atlanta 2005), 44, 83, 87. 251 respectively.

⁹⁸ For the translations see R. O. Faulkner, *The Ancient Egyptian Coffin Texts* I (Warminster 1974), 182–183. Although much later than the period under discussion, we also included here one sample of the Coffin Texts because of its close semantic and textual relationship to the Pyramid Texts model, although in a private context.

⁹⁹ For the translation see W. K. Simpson (ed.), *The Literature of Ancient Egypt. An Anthology of Stories, Instructions, Stelae, Autobiographies and Poetry* (Cairo 2003), 20.

¹⁰⁰ The reference to the cutting off of heads not being commanded to humanity seems to implicitly mean that only a god could have done this. So, today it is said from the Christian point of view that life is sacred and that nobody should take it away (whether murder or suicide); the implication seems to be that only God can do it.

¹⁰¹ In this sense we can also understand the meaning of the following question by Khufu to Djedi, namely the number of the shrines of the enclosure of Thoth whose knowledge, likely to be embodied in the architectural layout of his pyramid, would have certainly given divine power to the king. See also W. K. Simpson (ed.), *Literature*, 20, n. 13.

¹⁰² The historicity of the Westcar Papyrus has often been questioned. This is not the place to discuss this issue in detail. However, I would stress that a real, historical background is to be found in the tale and this certainly means that the compilers of the story had direct access to both historical documents and literary material on which to ground their account. On the historical versus literary value of the tale see: H. Goedicke, 'Thoughts about the Papyrus Westcar', *ZÄS* 120 (1993), 23–36; H. M. Hays, 'The Historicity of Papyrus Westcar', *ZÄS* 129 (2002), 20–30.

¹⁰³ For the translation see Simpson (ed.), *Literature*, 20.

¹⁰⁴ See also Lacovara, *KMT* 8/4 (Winter 1997–98), 31 and fig. at page 33.

¹⁰⁵ A similar reverse process can be imagined for the mastabas of the Eastern Field at the sunset. Indeed, they would have been the first ones to disappear at dusk in the shadow of Khufu's pyramid, from the nearest to the furthest to his pyramid.

¹⁰⁶ Indeed many Pyramid Texts seem to refer indirectly to such a kind of ritual belief: see, for example, the last sentence of the above-mentioned PT

254 (§ 287): ‘Since Unis has allowed them to eat from their cups and drink from their inundation, so shall Unis be protected in the same by those who see him’, or PT 217 (§ 159): ‘Horus, go, announce to the *bas* of the East as well as their *akhs*: “This Unis has come, an imperishable *akh*. The one he wants to live, he will live; the one he wants to die, he will die.” ’ (translations from Allen, *Pyramid Texts*, 44, 33).

¹⁰⁷ In this regard, the summer solstice seems to be of primary importance. As to the astronomy of the Giza Plateau and the specific alignments of the pyramids and the sun, see M. Lehner, *The complete pyramids* (London 1997), 129–130 with further bibliography. See also the very recent paper by G. Magli, ‘Akheth Khufu: Archaeoastronomical Hints at a common project of the two main pyramids of Giza, Egypt’, *Nexus Network Journal* 11/1 (2009), 35–50.

¹⁰⁸ We can suppose that the manufacture of reserve heads would have been originally planned for all the tomb owners of both the eastern and western cemeteries. Later on, after Khufu's death, the heads fell out of fashion with tomb owners who, in some cases, also changed the layout of their respective mastabas. As to the development of the Giza necropolis under Khufu and Khafre see also Jánosi, in Arnold (ed.), *Egyptian Art*, 27–39, particularly 29–33).

The evidence of images: art and working techniques in the mastaba of Mereruka

Gabriele Pieke

The mastaba of Mereruka in the Teti Cemetery at Saqqara is one of the most important tombs of the Old Kingdom due to its size and unusual layout.¹ In its final stage the tomb consists of three major parts with separate cult chambers for Mereruka and his wife Waatetkhethor, and a section later used by their son Meri-Teti.² The mastaba is of vital importance due to its high number of decorated chambers and innumerable themes and motifs, some depicted here for the very first time. In particular, the huge variety of topics and themes within the chambers dedicated to Mereruka can only be described as outstanding, especially when compared to the other sections of the mastaba and neighbouring tombs in Saqqara. Altogether sixteen of the thirty-two chambers³ (Fig. 1) were decorated with relief and paintings, although only the relief survives in large part today. In general, a study on tomb decoration must take into account the fact that the modern state of preservation is rarely identical with its ancient condition and the loss of paint brings with it a profound change of information. Until now general evaluations concerning relief as well as painting techniques and style are rarely to be found in scholarly publications.⁴ Instead the usual focus is on a semantic content of the tomb decoration and social rank of the tomb owner. However, a detailed recording of relief and paintings might not only lead to a better understanding of working techniques, the positions of the artists or even the possibilities for individual choices within the tight framework of Old Kingdom tomb decoration, but also to a great deal of further information about the impact of the images themselves.

Working procedures

It is assumed that in general a team of sculptors and painters executed the tomb decoration, each being a different group of people.⁵ Already in the very first publication on the mastaba of Mereruka, Daressy pointed out that the relief could not be the work of a single hand but was produced by several artists working there.⁶ On the basis of more detailed recording, carried out by the present author, some further observations can be made. It is supposed that, as a first step, one of the main artists defines the general layout of the wall area and the number of figures. The well-balanced compositions in several chambers such as A 01, A 04 or especially A 13⁷ inherently indicate a unitary conception by one person. Execution of the design was committed to individual sculptors and painters. It may also be assumed that the most skilled sculptor or supervisor processed the main figures, such as the tomb owner.

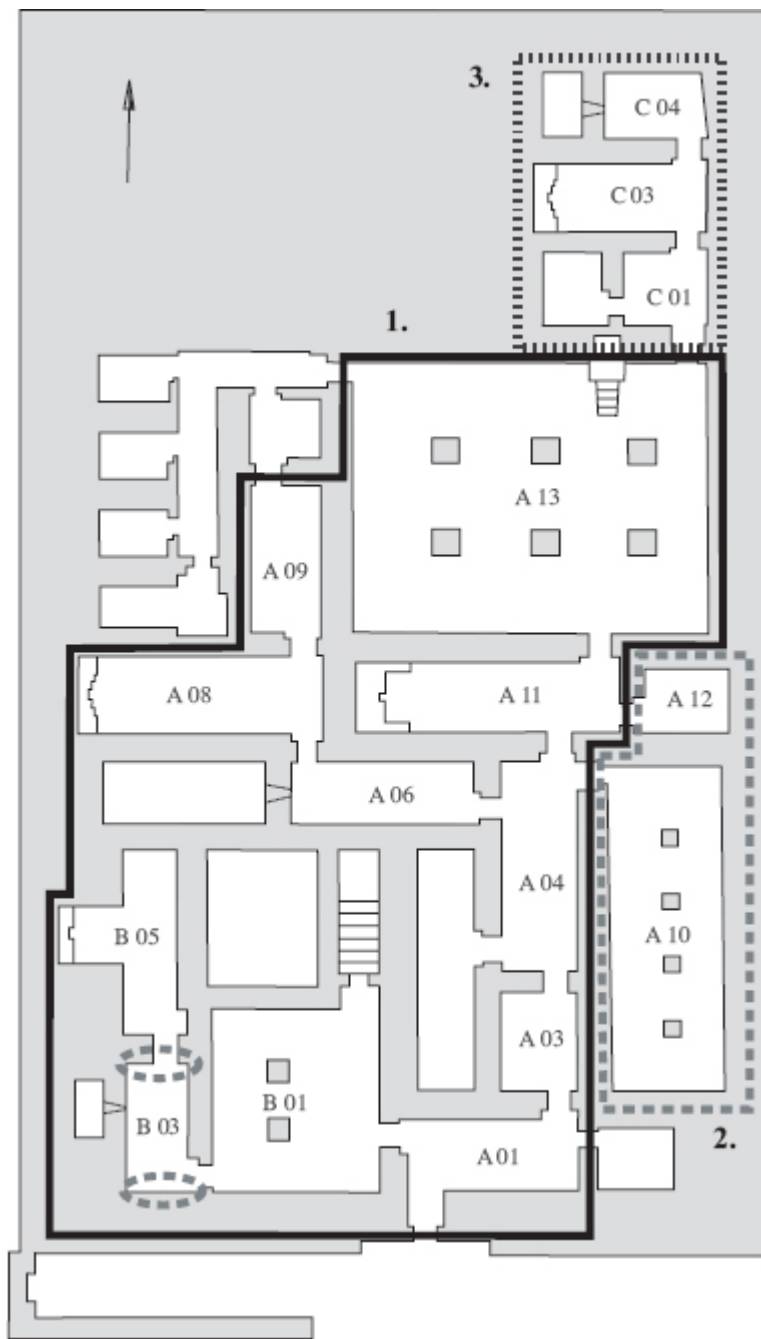


Fig. 1: Decorated chambers and main stages in the decorative process

By detailed recording of relief cut and painting, several artists can clearly be distinguished for several parts of the mastaba. Stylistic parameters like the height of the relief cut, the modelling and smoothing of relief, and any special design of details are the underlying criteria for this analysis. The

forming of details like wigs, outline of faces, fingernails, muscles or navels indicate the work of different sculptors, although it has to be kept in mind that we are dealing with different stages of production as well as the fact that a skilled artist is without any doubt capable of achieving distinct styles. Single steps of relief cutting can be attested in several areas like, for example, the west and east walls of chamber B 03, where certain parts exhibit unsmoothed outlines and lack detailed formulation.⁸ At the east wall of B 05 a figure lacking delicately chiselled facial features is placed right next to one carved in high quality relief (Fig. 2). Further, certain qualities of stone obviously affected the outcome, and when working in mortar (as seen notably in chambers A 09 and B 05) a high-quality relief cut was not possible. The nature of the stone also contributed to the inferior design of chambers A 10 and A 12.

Table 1: Main decorative phases (compare Fig. 1)

Phase of decoration	Owner	Room number
1	Mereruka Waatekhethor	A 01, 03, 04, 06, 08, 09, 11, 13 B 01, 03 (East and West wall), 05
2	Mereruka Waatekhethor	A 10–12 North and South wall of B 03
3	Meri-Teti	C 01, 03, 04 (with the East wall in an early step)
4	Meri-Teti	Several severe modifications in C 01, 03, 04

Duell already noted the high quality of workmanship in room A 13;⁹ he stated that the best group of sculptors had carried out its relief, and in his opinion both main as well as minor figures were created by the same persons. In general it can be proved that a group of sculptors and painters would work side-by-side at regular, but quite small intervals, starting from the bottom register (Fig. 3–Fig. 6). They each worked on a section of the design of about 100 cm to a maximum of 150 cm.¹⁰ The latter is clearly attested, not only by certain inscriptions, but also by different stages of production within one plane of a register. In many cases, at the end of a working area, figures lack details like locks of hair, facial features, navels, fingernails and muscles, while at the other end everything is perfectly complete.¹¹ These observations also prove that the sculptors generally worked next to each other, in the same direction, from left to right or the other way round. In only a few cases the artists executed the relief towards each other, like at the west wall of B 01.¹² Another rare example is the north wall of A 01, which shows diverging stages of production.¹³ In the case of long wall areas, which depict a single theme, such as the great number of offering bearers in the main cult chambers A 08, B 05 and C 03, or the room

containing the shaft A 11, a comparison of styles indicates up to six sculptors working side-by-side. For A 08 the same artists can be identified for both the south and north walls.¹⁴ The distribution of areas worked on by a single artist did not follow semantic or even syntactic structures, but rather the actual length of the space. This is illustrated, for example, on the east wall of C 01: here the sculptors divided the area into two equal segments, although the composition and arrangement of two scenes is very different.¹⁵ This observation does not apply to the main figures of the tomb owner, which were executed separately by a highly skilled artist, probably the master and main responsible person.



Fig. 2: Different stages of production; east wall of chamber B 05



Fig. 3: Sculptor's work at right hand side of bottom register; east wall of



Fig. 4: Sculptor's work at left hand side of bottom register; east wall of chamber B 03



Fig. 5: Sculptor's work at right hand side of third register; east wall of chamber B 03



Fig. 6: Sculptor's work at left hand side of third register; east wall of chamber B 03

Due to the need for scaffolding to work on the upper wall areas, it is unlikely that the artists first finished the entire left hand side before moving to the right hand side. Rather sculptors cut the lower registers of a wall and afterwards continued in the upper areas. This later stage of production is further demonstrated by the large number of instances of unfinished details visible in many upper wall areas (Fig. 3–Fig. 6). At the same time, these parts belong stylistically to the same artist, clearly disproving Duell's theory of several artists working at one spot one after another.¹⁶ In addition to proving that work proceeded from bottom to top and in clearly defined segments, the work of some of the same artists can be verified in several different parts of the mastaba rather than in only one chamber. For example, the long processions of offering bearers in A 08 and A 11¹⁷ show evidence of the same hand, and at least one sculptor working on the granary scenes at the east wall of A 13 can be attested for the east wall in chamber B 03 of Waatetkhethor.¹⁸ The second artist responsible for the offering bearers in B 03 also worked on the west wall of the next room B 05.¹⁹

Progress of work

In addition, by studying the state of completion of reliefs, the progress of work can be deduced also for certain rooms. In the first chamber A 01, the south wall²⁰ exhibits a much better quality of relief cutting, leading to the presumption this area was executed first. In a second stage, the carving of the north wall, which has several unfinished details, was undertaken. In other words, a varying quality of relief is often evident within a single room. In

room A 01, the small east wall at the entrance of the tomb, as well as the west wall, exhibit a mediocre design and only the figure of the tomb owner is executed on a higher level.²¹ The large east wall²² demonstrates relatively hasty and untidy work. Due to the much lower degree of visibility and bad lighting conditions, it may be assumed that this wall was worked on much more carelessly than other areas in this part. Effort was only focussed on the two main figures, the tomb owner accompanied by his wife, as shown by the quality of the work. By examining the execution of relief cutting in chamber B 01, we can make out two different hands, both of them working on the north, south and west walls.²³ Due to its inferior quality the west wall seems to be the last one to be finished. Further evidence for this theory is even given by the main figures, since here the figures of Waatetkhethor and her son and daughter display a poor degree of carving in many details. Room B 03, in particular, exhibits an extremely divergent quality of decoration.²⁴ Whereas the north and south walls indicate irregular and hasty work, both the other walls are captivating because of the good, or even outstanding, relief work in at least some lower registers (Fig. 3). In chamber C 04, a stylistic comparison also suggests the sequence of work. A much higher standard on the east wall and the eastern part of the north wall²⁵ imply that both areas had been executed first and by the same group of people, who also worked in chamber C 01. The extremely inferior design of the south and west walls and the western part of the north wall indicate another phase of decoration, carried out at a later stage.

Besides the evaluation of quality in general, the examination of working techniques is an important method, especially when the process of work in the entire tomb is concerned. By being able to distinguish the work of the same sculptors, it can be proved that they were working simultaneously on certain images and in particular chambers. As already mentioned, a stylistic analysis demonstrates that certain artists worked in some rooms of Mereruka and, at the same time, in chambers of his wife Waatetkhethor. For instance, identical sculptors can be detected in the hunting scene on the south wall of A 01 and the east walls of B 03 and B 05.²⁶ The conclusion that several artists worked not only in the chambers of Mereruka but also in those of his wife Waatetkhethor is clear evidence of an identical time horizon for both parts of the tomb (Fig. 1, Table 1). Conversely, the fact that no identical hands are visible in chambers A 10, A 12 and all the other rooms of Mereruka indicates that they were created at a different date. The very poor execution of the north and south walls of B 03 also seems to indicate a later stage of production. Following the work of the sculptors, the walls were coated with a thin layer of stucco, after which the painters began their work. In the tomb of Mereruka, the priming coat is still visible in the better preserved and executed parts,²⁷ while the more poorly executed chambers, A 10 and A 12, lack this high quality and time-consuming technique. These two rooms also have a darker colour scheme, as well as a great change of

conceptual layout, which indicate a later stage of production.²⁸

The carving of the reliefs and wall designs in various rooms of the tomb also indicate different periods of production, and the fact that in many cases some parts of the relief are unfinished seems to have been mainly dependant on the time schedule, unless the economic status of the vizier Mereruka needs to be reconsidered. Duell had already noted briefly that ‘chambers – A 1, A 3, A 4, A 6, A 8, A 11, and A 13 – appear to have been decorated at the same time and by the same group of sculptors’,²⁹ without providing any explanation for this. He also rates the decoration of chamber A 09 as stylistically not dissimilar to the work in other rooms, but nevertheless technically inferior and ‘executed by a different group of artists, most likely at a later time’.³⁰ Despite the use of a different kind of mortar in this room – it is much more coarse than in other rooms – the colour and quality of the limestone, as well as the high standard of relief carving indicate that this chamber was originally designed to have relief decoration and does not represent part of a radical change of concept at a later point.³¹ In the third part of the mastaba, area C, which is without any doubt a later addition (Fig. 1)³² an equal time-line for work on the east walls of C 01 and C 04 can be shown (as described above, from stylistic comparison the same two artists can be attested for the east walls of the chamber C 01 and C 04, implying that both areas were executed more or less at the same time), but there is no evidence of a single person in charge, working in the rooms of the son and at the same time in sections A or B of the mastaba.

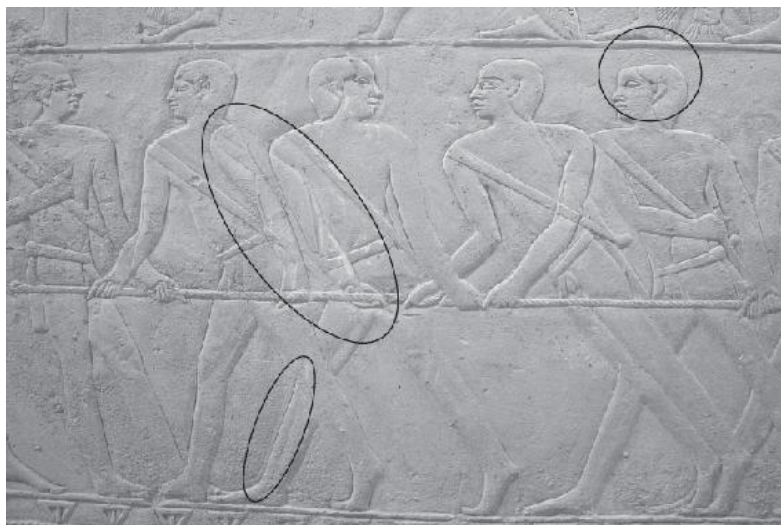


Fig. 7: Later corrections of contours; north wall of chamber A 06

Master versus ordinary sculptors

In some areas correction by a leading hand can be recognized, improving the work of others, for instance in the dragnet scenes on the north wall of A 06 (Fig. 7). Furthermore, some individual hieroglyphs as part of the titles of Mereruka, east of the statue shrine on the north wall of A 13 are executed in a much more detailed and exact way³³ than most of the others and indicate the contrast between the work of an ordinary workshop member and the hand of a master (Fig. 8). In general, it may be assumed that a leading hand was responsible for the most important figures, such as the tomb owner.

Hypothetically, it is also very possible that there existed a workshop tradition like in European art, with only the final finishing and detail work on the main figures being done by the master, whereas ordinary sculptors were responsible for the first phase of relief carving and especially the large empty areas around the tomb owner's figure. Due to the poor state of preservation of Mereruka's figures in most parts of the mastaba, it is not possible to detect clear differences between these images, at least not in the chambers containing the first stage of decoration. Rather, details in the better-preserved rooms, such as A 08 and A 13, show a more or less similar style. Only representations in chambers A 10 and A 12, without doubt a later stage of decoration, demonstrate a great difference in style and design even within the room itself. Some very small stylistic differences of Waatetkhethor's figure in B 03 are suggestive of two artists working on the relief carving here.³⁴ In B 05, the main cult chamber of area B, the workmanship of her figures can definitely be ascribed to two different sculptors. In the main cult scenes, those in which Waatetkhethor is shown sitting at an offering table, clear distinctions are evident not only in her facial features but also in many body details, whereas the style in the southern offering scenes is actually very similar to that of Mereruka's figures (Fig. 9), Fig. 10.³⁵



Fig. 8: Inferior relief cut with some better hieroglyphs executed by a master hand

If we look at the tomb owner in area C, the figures from the original decoration in chamber C 01³⁶ at least show an identical style, coming from one hand. Only his image in the palanquin at the north wall is different in exploring new ideas of iconography and style. Here the decorative elements of the palanquin, as well as the original text, are in raised and smoothed relief and are of better quality than the figure of the tomb owner, clearly indicating the responsibilities of different sculptors: one was responsible for the main figure, and another for the surrounding images.³⁷ This is a further indication of the work organisation of a master craftsman and his collaborators. In general it is obvious that, even in rooms with hastily created decoration and inferior relief carving, the figure of the tomb owner is emphasised by a much finer quality of artistry.³⁸ This result re-emphasises the interpretation of the existence of a leading hand responsible for the most

important figures and certain ordinary sculptors or apprentices carving the rest of the decoration.³⁹ There are some rare cases, like the north wall of the pillared hall A 13, where it is obvious that the same artist was responsible for the figure of the tomb owner as well as accompanying persons and smaller details.⁴⁰

In any case, it seems clear that there was a connection between the semantic meaning of images and the quality of execution; thus, important motifs and details show a higher standard of workmanship and more advanced state of completion. This conclusion is also valid for minor scenes such as, for example, the west wall of chamber B 01. Here, the water area shows hasty relief carving, whereas the fishermen above are executed in a more accomplished way.⁴¹ Hence it may be concluded that human figures were accomplished in a separate step, and with regard to the impact of the motif. Diverse stages of production clearly demonstrate that two different artists worked in this picture plane and in this rare example, both started from the outside, with the central parts being left unfinished. Only the bottom register presents a balanced arrangement of completed and unfinished figures, which may again be explained by the perceived importance of the motif. The classic dragnet scene presents two equal groups of men turned towards each other; the centre of the image is further emphasised by the figure of an overseer leaning on his staff and, unlike all the others, he is shown wearing a projecting kilt.⁴² Without doubt, an unfinished key figure within the scene would have been visually disturbing. Even a look at the doorways confirms the theory that a semantic purpose was of direct importance when working procedures were considered. For example, the preserved relief in the western part of the doorways A 06–A 08 or A 08–A 09,⁴³ due to the much better relief in comparison to the east wall of the doorways, demonstrate that the west walls played a more major role and were therefore carved in a more sophisticated way than the east walls.

Comparing the quality of relief and painting in the entire mastaba it is obvious that the main cult chambers, such as the offering chapels (A 08, B 05, C 03) and the room containing the shaft (A 11), as well as the large hall (A 13), were decorated to a much superior level and thereby clearly marked out in meaning and importance. There are only a few examples in which the opposite is true. In the scene on the north wall of the pillared hall A 13, it is the figure of a man called Aperref, and not Mereruka or his son, which is completed in slightly more detailed fashion than either of the others.⁴⁴ Here a stylistic comparison indicates that the artist, who was responsible for all the three large-scale figures, worked from right to the left, starting with an unrelated person called Aperref. However, all three figures belong to the same main scene, which is introduced here for the very first time in the Old Kingdom, clearly demonstrating the strong creative approach of the decoration of this tomb. On the west wall of the same chamber there is a depiction of the boat trip to the 'beautiful west'. This is one of the rare

scenes that breaks the rule of the so-called *Bedeutungsmaßstab*⁴⁵ by depicting the tomb owner in a small scale. Returning to our point, it is also one of the few examples in the entire mastaba in which Mereruka's images are carved in a quality inferior to other figures next to him.⁴⁶



Fig. 9: Figure of Waatetkhethor showing a distinct style by a highly skilled sculptor; south wall of chamber B 05



Fig. 10: Figure of Waatetkhethor showing a different style; north wall of chamber B 05

The role of the viewer

The role of the viewer is often neglected⁴⁷ in publications about ancient art, but it must be discussed, in particular, when studying the space defining relief and paintings of Egyptian tomb chapels. In the case of Mereruka, even before entering the tomb, the visitor is directly engaged by the general architectural concept. The temenos wall in front of the western part of the façade is approximately 130 cm in height;⁴⁸ depicted on it is a series of twenty-six figures of Mereruka, with his titles. The interest of approaching visitors is attracted not only by this very rare feature identifying the tomb owner but also by the front design, visible and even emphasised behind a small wall. The façade particularly exhibits the highest standard of relief carving of the entire mastaba, emphasising the high social rank of the tomb owner and making it visible for everybody passing by at the same time.

Further clear evidence of the immediate importance of the beholder is found in area C. On the north wall of chamber C 04, at the eastern end of the bottom register, two men were originally shown carrying a chest. When one figure was removed to give space for additional inscriptions for the next tomb owner, in order to retain the logic of the image, a leg was added in ink so that the chest did not hang in mid-air.⁴⁹ This correction is directly aimed at the experience of the visitor and a general concern to present an understandable motif.

It can be asserted that it was not only due to the progression of work, but also having regard to the situation of the beholder that the upper parts of the wall are regularly not as finished as some lower areas. This evidence is adduced from many examples of minor scenes in high areas, but not the figure of the tomb owner. Generally it seems that a detailed, smoothed relief was not necessary at a height of approximately 340 cm as the visitor would not be able to see it, especially in the low light conditions inside a mastaba. Careful study of inferior relief in the upper wall areas yields significant results, not only for the figures but also for inscriptions and even the titles of Mereruka himself (Fig. 8). The roughly carved texts above the figure of the tomb owner in the pillared hall clearly demonstrate this.⁵⁰ As regards the progression of work, it may be assumed that the leading hand was again only responsible for the main figure, not for the inscriptions above. For the minor scenes, however, the same artist executes the entire wall area, including both figures and accompanying texts. There are only a few places where it is possible to see accurately the progress of work in the upper registers. *Contra* Kanawati,⁵¹ who states that a stylistic comparison clearly proves that the same sculptors were working in one particular area, which we have already demonstrated is most likely to occur in working from bottom to top, this does not show the hands of different artists but only a distinction in the standard of accomplishment. Even doorways present an inferior quality in the top registers.⁵²

It is not only the stages of production and finishing of the upper parts of wall decoration which diverge from the lower registers; there is also

evidence for other special effects to enhance the visibility of images. Figures in the upper registers frequently have much larger heads, large eyes and only basic outlines of hair. This shows a careful targeting of techniques and, at the same time, a reduction of the motif to its essential details by which means a single image became much more recognisable. For instance, the priests performing a funerary ritual on the west wall of Waatetkhethor's offering chapel (B 05) are represented with much simpler and larger locks of hair, as well as larger heads and eyes, than the offering bearers in the registers below.⁵³ Likewise, the boat-building scene on the north wall of the large pillared hall A 13 (Fig. 11) shows the same technique allowing increased readability of these images.⁵⁴ This theory of enhancing visibility is further strengthened by the fact that the height of registers, as well as of figures, is often increased from the bottom to the top of a wall, and in the case of the north wall of A 13 there is an increase of approximately five centimetres in height from the bottom to the fourth register.⁵⁵



Fig. 11: Figures with larger heads and eyes as well as large locks of hair; north wall of chamber A 13



Fig. 12: Dramatic changes of contours by later painting; north wall of chamber B 03

Use of colour

As stated before, it can generally be assumed that a master craftsman was responsible for the initial layout and concept of each wall. In a second step, a preparatory drawing, to define the different motifs, was carried out quite accurately and in some detail, and this is still visible in the subterranean tomb chamber.⁵⁶ During this early process the general composition of the specific picture plane as well as individual images were defined. Even though most of the paint and drawing have vanished today, it is possible to see that the use of different colours also underlined the different stages of production; for example, a slightly darker palette supports the interpretation that chambers A 10 and A 12 represent a later stage of decoration than the other decorated chambers of Mereruka (A 01, 03, 04, 06, 08, 09, 11, 13).

Colour was most probably applied by a different group of artists and not by sculptors, which is shown by many corrections marked over the relief outline. Obviously in some cases the later painting enhanced less sophisticated reliefs, and the application of colour could be a means of hiding incomplete or hasty relief carving to a certain extent. The north wall of B 03 shows a group of dancing women in an extremely inferior design.⁵⁷ Above the raised relief a red contour line is still visible marking a totally new outline of the figures (Fig. 12) and the later application of paint would have been somewhat able to mask the poor work of the sculptors. The use of red colour at this point for a second preliminary drawing is easy to explain and, moreover, a typical technique in wall paintings. Red is sufficiently

visible for clearly marking new outlines but, unlike black, it does not show through a later coat of paint. These improvements achieved by later use of colour, as well as some corrections executed in relief, also suggest that some kind of checking took place at a certain point in the progress of the work which might require some enhancements. In addition, in room A 10 there are many examples where the later painted contour shows marked differences from the relief carving of the figure.

Also with the purpose of directly engaging the viewer, a special painting technique was additionally used in the upper parts of the wall. The anthracite grey background colour was not applied directly adjacent to the outline of the figures and hieroglyphs but at a slight distance leaving a small gap, thus directly increasing the visibility of motifs and accompanying text. A second technique is still visible in room A 01, the very first chamber of the tomb. On the north wall a special red outline was drawn around all the figures, while colour was applied on parts of the raised relief as well as the surrounding areas. Again a particular method has been used here to emphasise the image by distinguishing it from the dark anthracite grey background.⁵⁸

Grouping of figures

This point relates to the organisation of the images as part of the composition and the outline of scenes and groups of figures. Remarkably, the layout of scenes is in most cases based on consistent groupings of figures. Groups in threes, sixes and nines are by far the most frequent, especially in scenes including offering bearers and the attendants of the tomb owner. This can easily be explained as an ideal duplication of visual content.⁵⁹ Groups of four, eight and sixteen are the next most common and appear in the same context. In addition, these numbers are of importance for the main cult chambers. However the three sections of the tomb utilise different size groups for identical themes,⁶⁰ which cannot only be explained as having a religious meaning but also contributed to the ordering of figures within a scene. For instance, rows of five and seven are less common in the chambers of Mereruka than the other two parts of the mastaba.

In area C belonging to his son Meri-Teti, these groupings appear regularly, especially in scenes of herdsmen and the desert hunt. Also in area B, of Waatetkhethor, a grouping of five is often to be seen. The desert hunt scene especially shows the diverging uses of metric systems defining the composition: Mereruka's scene is based on groupings of threes, whereas in the chamber C 01 the same motif mainly uses groups of two, four or seven.⁶¹ These larger compositions in particular, which are very rich in detail, present a large or unclear number of figures, as does the agricultural scene at the east wall of A 13, with 156 figures still visible today.⁶² The clear use of a metric ordering of figures contributes strongly not only to a better understanding of

the whole scene, by providing an easily readable structure; at the same time balanced groupings of figures can provide a rhythmic arrangement of movement over several registers and connect units of understanding.

Conclusion

Analyses of working techniques and artistic methods provide further information about different stages of production and the progress of work on not only individual walls but also the entire tomb. Separate hands can clearly be distinguished and enable us to envisage a large group of sculptors who worked quite close to each other, starting with the areas at the bottom of the walls. Several artists worked at the same time in the chambers of both Mereruka and his wife, attesting their concurrency.

Certain leading hands were not only responsible for the general layout of rooms and walls but, in the course of relief carving and painting, executed the main figures of the tomb owners and were in charge of later corrections. It is clear that the readability of images and the situation of the viewer were directly considered during work. The upper wall areas especially show a much inferior design but also some techniques to improve the visibility of motifs. In addition, quality of relief and painting underline the meaning just as some metric compositions support the semantic importance of pictures. As a whole, an examination of work procedures and accomplishment can be seen as a further tool for understanding Egyptian tomb decoration and its intended purpose.

¹ PM III², 525–537, map LII, plan LVI; P. Duell et al., *The Mastaba of Mereruka* (2 vols, OIP 31 and 39; Chicago 1938); N. Kanawati and M. Abder-Raziq, *Mereruka and his Family, Part I. The Tomb of Meryteti* (ACE Reports 21; Oxford 2004); N. Kanawati and M. Abder-Raziq, *Mereruka and his Family, Part II. The Tomb of Waatetkhethor* (ACE Reports 26; Oxford 2008).

² Meri-Teti is generally identified as the owner of area C in most publications; Kanawati and Abder-Raziq, *Meryteti*, 11. Nevertheless there are still questions about the original ownership of this additional part of the tomb. A more probable candidate is Memi, the eldest son of Mereruka; G. Pieke, ‘Memi, der “älteste Sohn” des Mereruk’, *GM* 216 (2008), 105–108.

³ For the numbering system, see PM III², 2, plan LVI.

⁴ C. R. Williams, *The Decoration of the Tomb of Per-neb, The Technique and the Colour Conventions* (New York 1932); W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom*, (second edition, Oxford 1949), 244–272; D. Bussman, ‘Materials and Techniques’, in L. Donovan and K. McCorquodale (eds), *Egyptian Art, Principles and Themes in Wall Scenes* (Prism Archaeological Series 6; Guizeh 2000), 23–28.

⁵ D. Arnold, 'Grabau', *LÄ II* (1977), 253.

⁶ G. Daressy, 'Mastabas de Merru-ka et de Ka-bi-n', *Revue Archéologique* 3 *Série XXVIII* (1896), 3.

⁷ Duell, *Mereruka I*, pl. 6–21, 35–46 and *Mereruka II*, pl. 127–188. The large pillared hall, in particular, demonstrates a delicate system of references and an extremely elaborate conceptual layout. Not only the family of the tomb owner but also connotations to divine aspects and the two main directions, north and west, are strongly emphasised and support the semantic meaning of the decoration.

⁸ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 25 and 34.

⁹ Duell, *Mereruka I*, 9.

¹⁰ For example, on the east wall of C 01, 236 cm of decorated wall is divided in two areas of 118 cm per artist. At the south wall of A 08 six different handwritings can be attested on a length of 678 cm.

¹¹ Compare for example the east end of north wall, chamber A 13: the playing children at the right hand end are only defined in outline contours, while the left side of the scene is carved with many details.

¹² Kanawati and Abder-Raziq, *Waatetkhethor*, pls 9–15.

¹³ Duell, *Mereruka I*, pls 9–13.

¹⁴ Duell, *Mereruka I*, pls 57–66.

¹⁵ Total picture plane: 236 cm; poultry farm: 160 cm; presentation of animals: 76 cm; palanquin procession above: 236 cm. Kanawati and Abder-Raziq, *Meryteti*, pls 11–14 and 48.

¹⁶ Duell, *Mereruka I*, 16.

¹⁷ Duell, *Mereruka I*, 57–59 and *Mereruka II*, 106.

¹⁸ Duell, *Mereruka II*, 168–170 and Kanawati and Abder-Raziq, *Waatetkhethor*, pls 33 and 34 (b).

¹⁹ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 33 and 51.

²⁰ Duell, *Mereruka I*, pls 15–21.

²¹ Duell, *Mereruka I*, pls 6–7.

²² Duell, *Mereruka I*, pl. 14.

²³ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 3–18.

²⁴ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 20–34.

²⁵ Kanawati and Abder-Raziq, *Meryteti*, pls 30–36.

²⁶ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 33, 34 and 51.

²⁷ Especially the figures of the tomb owner in room A 13.

²⁸ Duell, *Mereruka I*, pls 79–103 and *Mereruka II*, pls 112–122.

²⁹ Duell, *Mereruka I*, 9.

³⁰ Duell, *Mereruka I*, 9.

³¹ As is the case with chambers A 10 and A 12. In addition a separate room such as A 09 is an example of a new feature of the early sixth dynasty mastabas in the Teti cemetery, a chamber decorated with men carrying oil

jars and chests. Compare the neighbouring mastabas of Khentika, Ankhmahor and Kagemni: respectively PM III², 510 Room VIII (31)–(34); PM III², 514 Room V (19)–(20); PM III², 524–525 Room VIII (40)–(42).

³² This is already shown by the destruction of relief on the north wall of A 13 in anticipation of an new addition; Duell, *Mereruka* II, pl. 164.

³³ For example, the figure of Horus in the title *Hry-sStA n mdw-nTr*. For a teacher-student relations in sculptors' workshops in general see N. S. Tomoum, *The Sculptors Models of the Late and Ptolemaic Periods. A Study of the Type and Function of a Group of Ancient Egyptian Artefacts* (Cairo 2005), 156–161.

³⁴ Relevant criteria are the different stylistic parameters of details and, to a lesser extent, the variants of iconographic features or stages of production; Kanawati and Abder-Raziq, *Waatetkhethor*, pls 20, 24 (a) and 23 (a + b).

³⁵ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 41 (a) and 43 (a,b).

³⁶ Kanawati and Abder-Raziq, *Meryteti*, pls 3, 4 and 8.

³⁷ Kanawati and Abder-Raziq, *Meryteti*, pl. 7 (a).

³⁸ This is especially visible in chambers A 10, A 12 or C 04.

³⁹ Compare the similar results for the Middle and New Kingdom: R. E. Freed, 'Observations on the Dating and Decoration of the Tombs of Ihy and Hetep at Saqqara', in M. Bárta and J. Krejčí (eds), *Abusir and Saqqara in the Year 2000* (ArOr Suppl. IX; Praha 2000), 213–214; B. M. Bryan, 'Painting Techniques and Artisan Organization in the Tomb of Suemniwet, Theban Tomb 92', in W. V. Davies (ed.), *Colour and Painting in Ancient Egypt* (London 2001), 63–72; G. Owen and B. Kemp, 'Craftsmen's Work Patterns in Unfinished Tombs at Amarna', *CAJ* 4.1 (1994), 121–129.

⁴⁰ Duell, *Mereruka* II, 154 and 159.

⁴¹ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 13 (a)–15 (a).

⁴² Kanawati and Abder-Raziq, *Waatetkhethor*, pls 9–10.

⁴³ Duell, *Mereruka* I, pls 194 and 195.

⁴⁴ Duell, *Mereruka* I, pls 154–156.

⁴⁵ For the general principles of *Bedeutungsmaßstab* see H. Schäfer, *Von ägyptischer Kunst* (Leipzig 1930, 241–244) and H. Altenmüller, 'Fragen zur Ikonographie des Grabherrn in der 5. Dynastie des Alten Reiches', in *Kunst des Alten Reiches. Symposium im Deutschen Archäologischen Institut Kairo am 29. und 30. Oktober 1991* (SDAIK 28; Mainz am Rhein 1995), 19–20.

⁴⁶ Duell, *Mereruka* II, pls 141–144.

⁴⁷ W. Wolf, *Die Kunst Ägyptens, Gestalt und Geschichte* (Stuttgart 1957), 37.

⁴⁸ Duell, *Mereruka* I, pl. 4 A and *Mereruka* II, pls 217–218; measurements by the author.

⁴⁹ Kanawati and Abder-Raziq, *Meryteti*, pl. 34 (b).

⁵⁰ For example, Duell, *Mereruka* II, pl. 179 or 182.

⁵¹ N. Kanawati, *The Tomb and Beyond, Burial Customs of Egyptian Officials* (Warminster 2001), 73.

⁵² For example on the south wall of A 04–06; Duell, *Mereruka* II, pl. 193 A.

⁵³ Kanawati and Abder-Raziq, *Waatetkhethor*, pl. 37 (a).

⁵⁴ Duell, *Mereruka* II, pl. 152.

⁵⁵ The height of registers and figures in the bottom register is 30 and 29 cm; in the fourth register it is 35.5 and 34 cm. Measurements by the author.

⁵⁶ Duell, *Mereruka* II, pls 200–209.

⁵⁷ Kanawati and Abder-Raziq, *Waatetkhethor*, pls 27–31.

⁵⁸ In particular, the black colour of the hair would have been hardly visible without this thin red line.

⁵⁹ Just to give one example of many: the palanquin scene at the north wall of A 13 show three attendants, six bearers before and behind the carrying chair and beneath the tomb owner there are two dwarfs and four animals; Duell, *Mereruka* II, pl. 158.

⁶⁰ For instance, unlike her husband, Waatetkhethor favours compositions of five for her chambers.

⁶¹ Duell, *Mereruka* I, pl. 25. Bottom register: three chasing and nine hunted animals; second register: nine dogs mauling a desert animal. Kanawati and Abder-Raziq, *Meryteti*, pl. 46. Third register: four hunters and eight plus two hunted animals; fourth register: nine dogs plus one man are chasing two plus two animals; fifth register: two hunters stand against twelve desert animals; sixth register: two lions are confront seven animals and one man is carrying four smaller wild animals.

⁶² Duell, *Mereruka* II, pls 168–170.

The concept of *ḥpr̥r* in Old Kingdom religious texts

Joanna Popielska-Grzybowska

The world of ideas created in the Pyramid Texts, although seemingly incoherent in places, in some images, is in fact clear, coherent and, what is more, consistent, if only one attempts to see it through the eyes of believers of the religion – which is very difficult, though possible to some extent. After scrutinising the religious images thoroughly step by step they appear to be homogeneous in their diversity and of seeming paradoxes and absence of uniformity.¹

In Egyptian religious literature we shall not look for much metaphorisation;² even if it does occur it is extremely difficult for us to analyse, coming as we do from a very different cultural era. One should rather discern the figurative means of expression via symbols, archetypes and *topoi* – the religious creation of reality – assuming that what is written and spoken out loud becomes real and truly exists.³ Thus, it should be accepted as existing in the way described, although it may seem peculiar to us today.

The topic of the nature of *ḥpr̥r* in the Pyramid Texts emerged while the present author was conducting research on Atum⁴ and then working on her dissertation (note 2) on, *inter alia*, the *topos* of completeness resulting from the completeness of Atum-demiurge. First and foremost to begin the analysis, it is crucial to note the transcription and reading of the Egyptian word *ḥpr̥r* as Kheprer. Most cases from the Pyramid Texts are written with double *r* at the end.⁵ Added to that, the falcon of Horus on the standard (Gardiner Sign-List G7 ) , which can be used as a determinative of the names of gods (cf N 467 § 888b; N 624 § 1757b; N 688 § 2079c; N 688 § 2083d) and may imply that the god is named occurs only relatively rarely: once in Teti,⁶ once in Pepy I,⁷ once in Merenre⁸ and six times in the versions of Pepy II Neferkare,⁹ three times (for six attestations, one destroyed) in the texts of Anchesenpepi II and three times in the texts of Neith.¹⁰ No such writing is, however, attested in the texts of Unas. In all other appearances of the word the sign of a beetle is sometimes employed as an ideogram while in

other instances it is a determinative.¹¹

In the Pyramid Texts, however, there is no writing *ḥprj* with a final *j*, although a later change from final *r* into *j* is comprehensible from a phonetic point of view.¹² Consequently, Khepri does not feature in the Pyramid Texts.

If one consults the indexes of various translations of the Pyramid Texts, it may be observed that some scholars note the difference between these forms, while others do not seem to or they focus more on treating *ḥpr* as an obvious variant or maybe earlier form of the name of the god Khepri.

Speleers¹³ singles out two entries with the same transliteration *ḥpr*. First, '*ḥpr* beetle' (§ 366, 561, 570, 697, 2107). Second '*ḥpr*, Heprer' refers to a god, which appears in Speleers' translations in the following paragraphs of the Pyramid Texts: § 199, 305, 888, 918, 1210, 1445, 1587, 1652, 1757, 1874, 2079, 2083, 2206.

Sethe,¹⁴ after having named the main deities, gives the entry *ḥpr* explaining that it is a god with a scarab in place of a head (§ 1445a). Sometimes, according to him, it is identified with Atum (§ 199a). On another occasion Sethe is of the opinion that it is the morning sun (§ 888b). He also mentions that the Pyramid Texts refer to the field of the morning sun. One may, however, question whether it refers to *ḥpr* at all.

Mercer notes *ḥpr* with the definition that it is the earliest orthography of the name of the morning sun god Khepri. He gives a reference to the cult centre of Khepri in Heliopolis. The deity was depicted as a human with a beetle in place of a head.¹⁵ Thus for Mercer,¹⁶ 'Khepri' appears in the Pyramid Texts in § 305b, 561c, 570, 697a, 888b, 918b, 1210a, 1445a, 1587b-d, 1695a, 1757, 1874a, 2079c, 2083d, 2206f.

Faulkner¹⁷ gives the entry *ḥpr* 'Khoprer, young sun as a beetle'. This deity is referred to in the following paragraphs of the Pyramid Texts: § 189, 305, 561, 570, 697, 888, 918, 1210, 1248, 1445, 1546(?), [1587], 1695, 1757, 1874, 2079, 2083, 2135–2136, 2206.

Spiegel¹⁸ puts the word 'Chepre'¹⁹ in his index with a reference to the entry 'Scarab'.²⁰ However, he does not list paragraphs in which Khepre is mentioned.

Allen translates *ḥpr* as 'Scarab',²¹ 'Beetle'²² and 'Evolver'²³ depending on the context. 'Evolver' is defined as 'Designation of the Sun as he comes into being ("evolves") at dawn; the Egyptian name is also vocalised as Khepri.'²⁴

Finally, Minas-Nerpel in her monograph on the god Khepri translates *ḥpr* in her index as 'Skarabäus', 'Käfer'.²⁵ She also notes the existence of both 'Atum-Chepre'²⁶ and 'Atum-Chepri' (as 'Urgott von Heliopolis').²⁷

It is readily apparent that scholars not only do not list the same places of Khepri's appearance in the Pyramid Texts, but also translate the Egyptian word *ḥpr* differently – as the name of the god Khepri, as Khepre, as a

beetle or scarab. However, almost all Egyptologists agree, across a range of sources, that Khepri the god and a syncretic deity named Atum-Khepri appears in the Pyramid Texts for the first time, the latter in spell 600. Maspero,²⁸ Saleh²⁹ and Allen³⁰ merely translate the beginning of this spell as an invocation to Atum Scarab.

§ 1652a *tm ḥprṛ q3-n-k m q33*

§ 1652b *wbn-n-k m bnbṇ m ḥwt-bnw m jwnw*

§ 1652c *jšš-n-k m šw tfn-n-k m tfnt*

§ 1653a *d-n-k ʿwj-k ḥ3-sn m ʿwj k3 wn k3-k jm-sn*

§ 1653b *tm d(k) n-k ʿwj-k ḥ3 nmtjj m z3f mr n rʿ*

§ 1653c *ḥ3 k3t tn ḥ3 mr pn m ʿwj k3*

§ 1653d *wm k3 n nmtjj m z3f mr n rʿ jm-f rwd n dt dt*

‘Atum Scarab!’³¹

When you became high as the high mound

When you appeared as *bnbṇ* in the *bnw* enclosure – in Heliopolis:

You sneezed Shu.

You spat Tefnut.

You set your arms about them, as the arms of *k3*, that your essence might be in them. O Atum, set your arms about Nemtiemzaf Merenre, about this construction, and about this pyramid as the arms of *k3*, that the essence of Nemtiemzaf Merenre may be in it, enduring for ever and ever.’ (Spell 600 §1652–1653)

Taking into consideration the ‘life context’ (‘Sitz im Leben’) of the excerpt from the Pyramid Texts, namely the act of creation of the world, or what Allen very aptly described as ‘Atum's self-realisation’,³² it would be much more appropriate to translate *ḥprṛ* at the beginning of the spell under discussion as ‘He-who-is-coming-into-being’. Thus the translation should run:

‘Atum-who-is-coming-into-being!

When you became high as the high mound

When you appeared as *bnbṇ* in the *bnw* enclosure – in Heliopolis:

You sneezed Shu.

You spat Tefnut (and so on)’

A thorough and intensive analysis of the context in which certain ideas appear, especially in religious texts, is evidently crucial for interpreting these writings. Consequently, when other fragments of the Pyramid Texts are analysed, none of them can with complete certitude be designated as describing the morning sun god Khepri. As an example, let us consider Spell 257, § 304–305b:

§ 304a *hnnw m pt*

§ 304b *ms(n)-n mst jn-sn ntrw pswtjw*

§ 304c *psdt hrw m jshw*

§ 304d *snhd n-f nbw jrw*

§ 304e *pšr n-f psdtj tm*

§ 305a *hms rf m st nb tm jt wnjs pt pšn-f bjš-s*

§ 305b *sšmw wnjs wswt n hpr*

‘Confusion in the sky: “We have seen something new”, say the primaeval gods.

O Ennead! Horus is in the sunlight – may these who possess forms terrify for him, may two Enneads of Atum serve him, when he sits on the throne of the Lord of All.

Unas will take possession of the sky and he will split its *bjš*. Unas will control ways of/for Him-who-is-coming-into-being.’ (Spell 257 § 304–305b)

In § 304–305, the deceased pharaoh governs the ways of or for *hpr*, but there is also an invocation to the Ennead, and it is said that Two Enneads serve him because he is sitting on the throne of *nb tm*, the Lord of All, a clear triple reference to Atum. Consequently, the king is being led to Atum rather than to any ambiguous deity Kheperer.

Next, § 888 (spell 467) runs as follows:

§ 888a *psd ppjj pn m jšbt mr r*

§ 888b *sšf m jmnt mr hpr*

‘This Pepy shines in the east like Re and he travels in the west like *hpr*,

No one would question that in the context of the west, even if or particularly when conscious of solar aspects, Atum is a very likely deity to appear.

In the case of § 1248, contemporary translations differ considerably. First of all, each version of this spell is somewhat different. The version of Pepy I has *tm pw hpr*, that of Merenre, *tm hpr*, and that of Pepy II, *tm hpr*. The first two are easier to interpret and could be translated as a nominal sentence:

§ 1248a *tm (pw) hpr m jw sw jrf m jwnw*

tm hpr m sw jrf m jwnw

§ 1248b *wd-n-f hnn-f m hfc-f*

wdjj n-f hnn-f m hfc-f

§ 1248c *jr-f ndmmt jm-f*

§ 1248d *ms zštj snt šw (pw) hn^c tfnt*

‘Atum is the one who came into being growing ithyphallic in Heliopolis. He put his phallus in his grasp that he might make orgasm with it – thus the two siblings were born: Shu together with Tefnut.’ (Spell 527)

This particular context is explicit as well, and the grammar would not cause special problems were it not for *tm ḥpr̄r* in the beginning of the text of Pepy II's version, which Faulkner treats as a mistake by the ancient Egyptians. However, there is no need to look for the mistakes of the ancient scribe; there is a simpler explanation. *ḥpr̄r* can be understood in the manner that Allen interpreted the name *tm*³³/*j-tmw*, namely as the noun of action, in the same way as *j-qdw* 'builder' is the noun of action from the verb *qd. tm*, with its senses to 'finish' and to 'complete' possibly leads to the conclusion that he was understood as the 'Finisher' or, in more descriptive way, 'He-who-is-finishing'. Consequently, *ḥpr̄r* is 'He-who-is-coming-into-being'.

Three more excerpts from the Pyramid Texts will corroborate the interpretation presented in this article. Thus, spell 587 § 1587 helps the understanding of the word *ḥpr̄r* in the Pyramid Texts:

§ 1587a *j-nd ḥr-k tm*

§ 1587b *j-nd ḥr-k ḥpr̄r ḥpr̄r ds-f*

§ 1587c *qj-k m rn-k pw n qj*

§ 1587d *ḥpr-k m rn-k pw n ḥpr̄r*

'Hail to you, Atum!

Hail to you, He-who-is-coming-into-being (ḥ) – the Self-created!

May you be high in this your name/identity of Hill (*ḥpr̄r*).

May you come into being in this your name/identity of Him-who-is-coming-into-being (*ḥpr̄r*).’ (Spell 587 §1587)

Moreover, § 199 of spell 222 states even more obviously:

§ 199a *ḥ-k ḥrf t3 pn pr m tm nš pr m ḥpr̄r*

§ 199b *ḥpr-k ḥrf q3-k ḥrf*

§ 199c *m3 tw jt-k m3 tw r*

‘Stand up on it, this earth, which came out from Atum and this saliva, which came out from *ḥpr̄r* and come into being on it; be high on it, so that your father can see you, so that Re can see you.’

Although there is a reference to solar religion and solar aspects of the deceased pharaoh, this does not preclude the irrefutable relationship between saliva and Atum in the act of creation, of coming-into-being.

Another fragment of the Pyramid Texts to be quoted and discussed is spell 688 § 2083:

§ 2083c *nj sdr-nf m grḥ nj wrš-nf*

§ 2083d *j-ḥm-f dt-f m wᵉ trwj n ḥpr̄r*

‘(...) he (the pharaoh) did not sleep at night, he did not spend the day, his body fell unconscious in one of the two times of *ḥpr̄r*.’

One may persist in connecting this word-image of the pharaoh with the solar religion. Even if this association might seem justified, this obviously is

a solar (and creative) aspect of Atum the self-generated creator, who is the Lord of All, the Lord of day and night as well. In the above quoted fragment of this spell, it is stated that the pharaoh is caused to mount up to *hpr* when he comes into being in the eastern part of the sky (§ 2079), but in § 2081 Atum is said to help the king's *k3* to mount up to the Double Lion god, to mount up to him – Atum. The latter made the rope-ladder for the pharaoh and made firm the ladder. Thus, once more, the appearance of Kheprer is in connection with Atum and his deeds.

However, even if one prefers to see in this an allusion to the sun, with the words confirming the idea of its three forms, this cannot be treated as a definite argument against the proposed correlation. Spell 606 is the only one describing the three phases of the sun clearly:

§ 1695a *shprsn NN pn mr r^c m rnfpw n hpr*

§ 1695b *j^ck nsn mr r^c m rnfpw n r^c*

§ 1695c *tmk m hprsn mr r^c m rnfpw n tm*

This is rendered as follows in Faulkner's translation:

They will bring you into being like Re in this his name of Khoprer (*hpr*); you will draw near to them like Re in this his name of Re (*r^c*); you will turn aside from their faces like Re in this his name of Atum (*tm*).³⁴ (§ 1695a-c)

In Allen's translation:

...and they will make (you) Nemtiemzaf Merenre, develop like the Sun in his identity of the Beetle. You will ascend to them (by day) like the Sun in his identity of the Sun, and you will vanish from their sight (by night) like the Sun in his identity Atum.³⁵

However, it may be equally well translated as:

They will cause this King to come into being like the Sun in this his name/identity of Him-who-is-coming-into-being. You shall ascend to them like the Sun in this his name/identity of Himwho-is-existing and you shall turn aside from their sight like the Sun in this his name/identity of Him-who-is-perishing.³⁶

I have previously formulated this as:

However strong a position Atum might take in the Pyramid Texts one cannot be sure that in this passage neither Khoprer – the god, nor Atum – the god, is invoked. Evidently the existing translation is true because both gods are closely connected with the notions included in this phrase. But there is no need to take it for granted that there were meant gods as separate divine entities. These two words *hpr* and *tm* could without any difficulty be translated as: 'This-who-is-coming-into-being' and 'This-who-is-perishing'. As

for *r* it could be understood as ‘day’, i.e. ‘This-who-is-existing’. There is only the Merikare’s version of this fragment preserved and one cannot find any sign of the determinative in there.³⁷

All in all, at the very beginning Atum was the only one, the sole god – the Monad who became three and then many as well. Consequently all gods, all entities were encompassed in him, as is manifest and easily recognisable in the Pyramid Texts. He was the completion of every god, as § 147 spell 215 informs us.³⁸

Thus, as shown above, there is no requirement for an identification of Khepri with Atum. We may proceed further and assert that the believers of the ancient Egyptian religion, whose beliefs were recorded and described in the Pyramid Texts, did not perceive as sharp a distinction between gods as we do today. Therefore, certainly the god Khepri did not exist, as he is never mentioned, and one should take careful note of the ancient Egyptian intentions reflected by differentiating the writings of the names of the deities. Moreover, it seems very probable that at the stage of religious development illustrated in the Pyramid Texts there was no separate morning sun god Kheprer.

For further corroboration of the above statement, it may be noted that there are no theophoric names with the name Kheprer/Khepri attested in the Old Kingdom.³⁹ The name Khepri appears in Egyptian religious texts at the moment when the recipients/addressees are changed and transformed into the corpus called by modern scholars the Coffin Texts.

Consequently, it would not be Egyptian to perceive the divisions of the gods sharply, especially during early religious stages. The deceased was to assume various forms, gods included, through metamorphosis and transformation to reach his place, his destination in the Beyond, and so were the gods as well. This was the crucial point of depicting gods equipped with diverse characteristics and traits.

The Egyptians were very fond of word-plays and used them extensively. Consequently, the concept of Atum, Lord of All, was naturally supplemented by an aspect, or epithet perhaps – self-generated *hpr*: ‘He-who-is (permanently and repeatedly)-coming-into-being’. Looking at this in more detail, the very first form of Atum seems to be *tm-hpr* ‘Atum-Kheprer – Complete-who-is-coming-into-being’. He is the complete one who comes into being by his own will at the beginning of time as well as every day, day by day, night by night as a repetition of this cosmogonic situation mirrored in the solar aspects of nature. Out of this concept later, most probably, emerged a new god-form Khepri. Furthermore, it seems that at the very beginning there was the demiurge Atum in his multiple, complete and complex all-comprising identity and nature. The Egyptian notion of a god, in fact every god, turns out to be characterised by fluency and indefinableness.⁴⁰ The relations of the god/gods and the pharaoh are

interchangeable, never definite – on the contrary, they are reversible and recurrent regularly day by day, night by night, as nature is.

The Egyptians, we should believe, were likely to accept multifaceted ideas of a god, with many aspects and infiltrations, rather than to define the gods and their domains. Thus Atum and Kheprer are two opposites/extremes of a single notion, the notion of the demiurge the self-realised creator.

Finally, it was nobody else but Atum, who said in the Book of the Dead explaining: ‘I am the self-generated god in the midst of Nun, thus my name/identity is Khepri.’⁴¹ This sentence appears to be significant clarification of how ancient Egyptians perceived the gods. These were, expressed by them themselves, penetrating, intermingling ideas. Although in the Book of the Dead Khepri, the name of the morning sun god-creator was used, in the Pyramid Texts there is indicated an earlier notion, a concept of Atum the demiurge, Atum-*bpr* – Atum-who-is-coming-into-being at the beginning of time before sky, earth, gods, people and even death existed.⁴²

¹ This article is an initial and the most important part of a more extensive analysis conducted by the author. The results presented herein consider the Pyramid Texts as the only Old Kingdom religious texts, but further research will be published.

² For discussion of metaphorisation see: J. Popielska-Grzybowska, ‘*O Osiris Nemtiemzaf Merenre, you are the essence of all the gods*’. *The Pyramid Texts as a Source of Topoi in the Coffin Texts* (PhD dissertation in preparation for printing), 31–32, 191 and cf also 75–80, 137–147.

³ J. Popielska-Grzybowska, ‘Religious Reality Creation through Language in the Old Kingdom Religious Texts’, in M. Bárta, F. Coppens, J. Krejčí (eds), *Abusir and Saqqara in the Year 2010*, in press. See also note 2.

⁴ cf some published results: J. Popielska-Grzybowska, ‘Some Preliminary Remarks on Atum and Jackal in the Pyramid Texts’, *GM* 173 (1999), 143–153; id., ‘Imię “Atum” w najstarszych egipskich tekstach religijnych’ (=‘The name “Atum” in the oldest Egyptian Religious Texts’), *Meander* 5 (1999), 479–494; id., ‘Atum in the Pyramid Texts’, in J. Popielska-Grzybowska (ed.), *Proceedings of the First Central European Conference of Young Egyptologists 1999: Perspectives of Research Warsaw 7–9 June 1999* (światowit Supplement Series E: Egyptology, vol. I, WES, vol. III, Warsaw 2001), 115–129.

⁵ For instance K. Sethe, *Die altägyptischen Pyramidentexte* (4 vols, Leipzig 1908–1922), I, 115, 289, 378; II, 372, 394. See also M. Minas-Nerpel, *Der Gott Chepri. Untersuchungen zu Schriftzeugnissen und ikonographischen Quellen vom Alten Reich bis in griechisch-römische Zeit* (OLA 154; Leuven–Paris–Dudley MA 2006), 59–60.

⁶ See T § 305b spell 257.

⁷ See P § 1757b/P/D ant/W 85 spell 624.

⁸ See M § 1210a spell 519.

⁹ See N § 888b spell 467; N § 1210a spell 519; N § 1757b spell 624; N § 2079c spell 688; N § 2083d spell 688; N § 2135a spell 691 C (for the last writing cf G. Jéquier, *Le monument funéraire de Pepi II. I Le tombeau royal* (Fouilles à Saqqarah; Le Caire 1936), pl. XI and R. O. Faulkner, *The Ancient Egyptian Pyramid Texts. Translated into English. Supplement* (Oxford 1969), 56.

¹⁰ See Nt § 1757b spell 624; Nt § 2079c spell 688; Nt § 2083d spell 688.

¹¹ cf Minas-Nerpel, *Der Gott Chepri*, 59–60.

¹² For change from dental vibrant *r* into palatal glide *j* as in the case of *mr* > *mj* see O. Firchow, *Grundzüge der Stilistik in den altägyptischen Pyramidentexten* (Berlin 1953), 108 note 1; E. Edel, *Altägyptische Grammatik* (2 vols, AnOr 34, 39; Rome 1955–1964), § 123, 128, 763. See also A. Loprieno, *Ancient Egyptian. A linguistic introduction* (Cambridge 1998), 33, 100. An analogous case seems to be *bpr̥r* > *bprj*.

¹³ L. Speleers, *Traduction, index et vocabulaire des Textes des Pyramides Egyptiennes* (Paris–Bruxelles 1934), 363, 364.

¹⁴ K. Sethe, *Übersetzung und Kommentar zu den Altägyptischen Pyramidentexten* (6 vols; Glückstadt–Hamburg 1935–1962), VI, 24.

¹⁵ S. A. B. Mercer, *The Pyramid Texts in Translation and Commentary IV* (New York–London–Toronto 1952), 182. Mercer provides also an example of another rising sun form symbolised by a scarab (*ibid.*).

¹⁶ Mercer, *The Pyramid Texts IV*, 282.

¹⁷ Faulkner, *The Ancient Egyptian Pyramid Texts*, 323.

¹⁸ J. Spiegel, *Das Auferstehungsritual der Unas-Pyramide* (ÄA 23; Wiesbaden 1971), 464, 474.

¹⁹ Spiegel, *Auferstehungsritual*, 211, 228, 358, 419.

²⁰ Spiegel, *Auferstehungsritual*, 13, 62–63, 211, 228, 251–253, 320, 419–420.

²¹ J. P. Allen, *Genesis in Egypt. The Philosophy of Ancient Egyptian Creation Accounts* (YES 2; New Haven 1988), 10–14.

²² J. P. Allen, *The Ancient Egyptian Pyramid Texts* (Writings from the Ancient World 23; Atlanta 2005), see for instance 39, 75, 76, 123, 126, 160, 198, 227, 269, 271, 293.

²³ Allen, *The Ancient Egyptian Pyramid Texts*, 45, 198, 296, 312, 430 (definition), 452.

²⁴ Allen, *The Ancient Egyptian Pyramid Texts*, 430.

²⁵ Minas-Nerpel, *Der Gott Chepri*, 30, 32, 60–63, 77, 102, 208, 213, 288, 295, 296, 372, 451, 452, 454, 455, 462, 477, 530.

²⁶ Minas-Nerpel, *Der Gott Chepri*, 38, 43, 369, 517.

²⁷ Minas-Nerpel, *Der Gott Chepri*, 15, 38, 43; concerning the appearance in the Pyramid Texts and index: 517.

²⁸ G. Maspero, ‘La pyramide du roi Pepi II’, *RecTrav* 12 (1892), 144.

²⁹ A.-A. Saleh, ‘The so-called “Primeval Hill” and Other Related

Elevations in Ancient Egyptian Mythology', *MDAIK* 25 (1969), 110–120.

³⁰ Allen, *Genesis*, 13.

³¹ Allen, *Genesis*, 13.

³² Allen, *Genesis*, 17.

³³ Allen, *Genesis*, 9.

³⁴ Faulkner, *The Ancient Egyptian Pyramid Texts*, 251.

³⁵ Allen, *The Ancient Egyptian Pyramid Texts*, 227.

³⁶ cf Popielska-Grzybowska, in Popielska-Grzybowska (ed.), *Proceedings of the First Central European Conference*, 118.

³⁷ *ibid.*

³⁸ cf Popielska-Grzybowska, in Popielska-Grzybowska (ed.), *Proceedings of the First Central European Conference*, 120–122.

³⁹ H. Ranke, *Die Ägyptischen Personennamen* (Glückstadt 1935), vol. I, 268–269. Ranke lists only names with the verb *hpr* 'werden'. There is no one with *hpr* or *hprj*. There is, however, one curious example from the Old Kingdom (with transliteration *hprj* (?)) from a tomb relief Cairo CG 1537 (L. Borchardt, *Denkmäler des Alten Reiches I* (Berlin 1937), 241, pl. 50. Other examples come from the Middle and New Kingdoms.

⁴⁰ cf first and foremost E. Hornung, *Der Eine und die Vielen. Ägyptische Gottesvorstellungen* (Darmstadt 1973).

⁴¹ E. Naville, *Das Aegyptische Todtenbuch der XVIII. bis XX. Dynastie aus verschiedenen Urkunden* (Berlin 1886), chapter 85 version C.a., col. 4.

⁴² The last statement is an intended play on words regarding the role of the demiurge as the father of the pharaoh with whom, however, he was identified concurrently cf spell 571 § 1466.

Twisted Kilts: variations in aspective representation in Old Kingdom mastaba chapels

Ann Macy Roth

One of the most common articles of apparel worn by Egyptian men in Old Kingdom reliefs and sculpture was the wrapped kilt.¹ It was a simple piece of white linen wrapped around the hips with its loose end swept up in a graceful curve and tucked into a waistband or belt. It could be worn by all classes, and to distinguish the more elite wearers, the end of the kilt that swept up into the belt was sometimes pleated and stained yellow.

As Engelbach noted already in 1929,² the wrapped kilts worn by non-royal male statues from the Old Kingdom almost without exception wrap around to the front from the right, in a counter-clockwise direction from the point of view of the wearer, while in the Middle Kingdom they wrap the other way. Put another way, in a statue of an Old Kingdom man, the curved sweep of the kilt's final wrapped end is visible from the right side of the statue, while in the Middle Kingdom, the sweep would be visible from the left. In an article with a somewhat different focus, W. K. Simpson pointed out that the royal *shendyt* kilt wraps from the left in all periods, what he called the 'royal fold' as opposed to the 'private fold'. He argued that the change of direction in Middle Kingdom non-royal statuary was in fact a usurpation of royal prerogative.³

Nicholas Reeves also discussed the direction of wrapping of kilts, arguing that the rare examples in which kings' kilts are wrapped from the right (that is, backwards, for the *shendyt* kilt) are subtle indications that the king so represented was left-handed.⁴ In passing, he suggested that the change in private statues in the Middle Kingdom to a wrap from the left, Simpson's 'royal fold', may derive from an association of the wrap from the right with the dead and the wrap from the left with the living,⁵ and hence also with the king, who is eternally living even in mortuary contexts. He proposed that the

Middle Kingdom adoption of the clockwise, 'living' direction of wrap by non-royal individuals was yet another aspect of the 'democratisation of the afterlife'.⁶

Despite their variance on other points, Engelbach, Simpson and Reeves all agreed that the direction in which the kilt wraps in two-dimensional art is not significant, since there the direction of the wrapping depends upon the orientation of the wearer. This is indeed often the case. The artist who is rendering a figure in the two-dimensional aspective view must often compromise accuracy for completeness of representation or for a natural appearance, and most commonly, wrapped kilts are shown wrapped to the front, with the line of the hem sweeping up to the belt visible on the side, regardless of whether it is the right side, in which case the direction of wrap shown would be that customarily shown on Old Kingdom three-dimensional statues, or the left side, in which case the kilt would be depicted wrapped as if it were wrapped in the opposite direction.

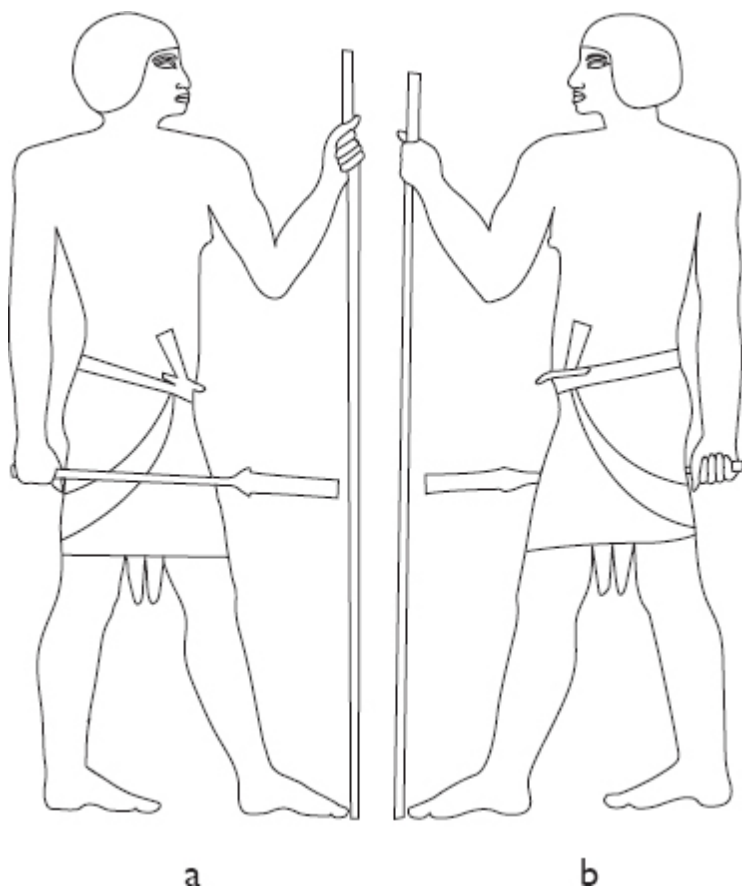


Fig. 1: Simplified drawings from the panels flanking the third dynasty false door recess of Khabausokar in the Egyptian Museum (CG 1385). These panels are perpendicular to the false door, with the figures facing away

from it. Their positions have been reversed here so that the orientation of the figures is comparable to the orientation of those in the later examples. The image labelled (a) is actually on the right and (b) on the left (drawing by the author)

The phenomenon is akin to that which H. G. Fischer has termed 'reversals'.⁷ In his discussion of the relationship between two-dimensional representations and hieroglyphs, he noted that a human figure facing to the right, the direction of a human hieroglyph in the prevailing right-to-left direction of writing and reading, is usually shown correctly, while a 'reversed' figure is often distorted. He argues that for this reason the rightward orientation is normally used for the most prestigious figure in a composition. In discussing two-dimensional art here, then, I shall use the term 'normal' to indicate a rightward facing figure, and 'reversed' to indicate a leftward facing figure.

A clear example of the often unsatisfactory choices made necessary by a reversal can be seen in the two panels flanking the false door of Khabausokar,⁸ simplified drawings of which are shown in [Fig. 1](#). The left drawing (a) shows the tomb owner facing right, the dominant orientation. He holds his sceptre in his right hand and his tall staff in his left. In the drawing on the right (b), he is shown reversed. His sceptre is again in his right hand and his staff in his left, although his arms have been attached to the wrong shoulders in order to achieve this, or alternatively, the front of his torso is shown where the back would be more logical. The sceptre passes behind his body, since it is meant to be held at the right (non-visible) side. Such distortions are not errors; the Egyptian artist was surely aware of the problem, but the aspective mode of representation required him to decide upon his priorities. It was in this case clearly thought important to show these symbols of power and status in the correct hands and in the correct relation to the body, even at the cost of an unnatural arrangement of the limbs.

It was also clearly less important to show the correct direction of the wrap of the kilt than it was to show the pleated sweep of the kilt's end. When reversed, the sweep of Khabausokar's kilt would have been on the right side of his body like his sceptre, turned away from the viewer and not visible, but the artist has instead shown the pleated sweep on the left hip, as if the kilt were wrapped in a clockwise direction, from the left. With regard to the kilt, then, the reversed figure is truly a mirror image, while the staff and sceptre are adjusted so that they appear in the proper hands and in their proper positions with respect to the torso.

The frequency with which this mirroring of the wrapped kilt is seen in two-dimensional art makes it unlikely that the direction of wrap in three-dimensional art signalled royal status or life versus death. If the direction of wrap held such significance, it would hardly be so cavalierly reversed. It

seems more likely that the direction of wrap was, as Reeves also suggested, a matter of right- or left-handedness. The difference in the direction of wrap may parallel the gender difference in the wrap of Western men's shirts and ladies' blouses. Men's shirts wrap from the left, to make it easier for right-handed men to button them. Ladies blouses, however, wrap from the right because they were originally buttoned by ladies' maids. Kings would also have been dressed by servants, and their kilts would wrap left for the servants' convenience. The Middle Kingdom development of a clockwise wrap might have signalled an increase in the number of high officials who were dressed by personal servants, or who hoped to suggest that they were.

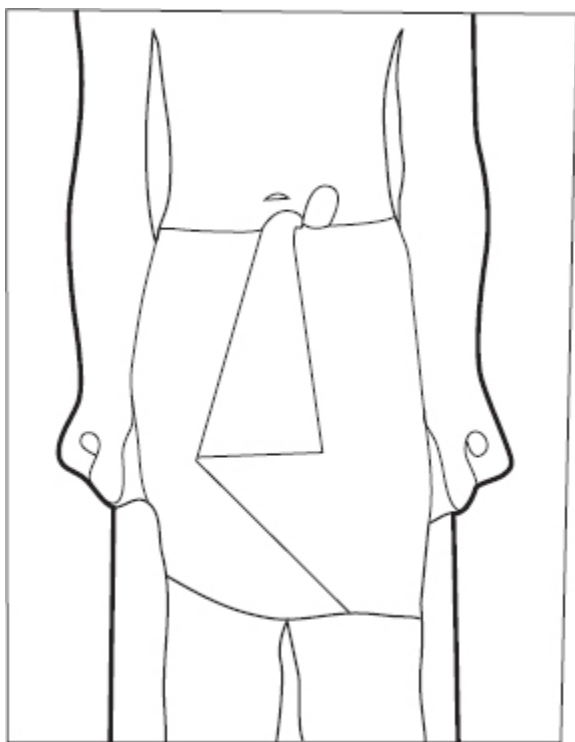


Fig. 2: Kilt with a folded-back flap on a fourth dynasty statue of a man from el-Kab. (MMA 62.200; drawing by the author)

Another factor that seems to have been overlooked even in three-dimensional representations is that different styles of kilts apparently wrapped in different directions. Slightly different from the standard wrapped kilt was a kilt with a longer flap, which wrapped around from the left, but continued further around to the right side, where the top of the flap was folded back and tucked into the front of the waistband, leaving a triangular flap pointing toward the right hip. (Fig. 2 shows this kilt in three dimensions on a statue in the Metropolitan Museum.⁹) This kilt wraps in the opposite direction, from the left side (clockwise, from the point of view of the

wearer). However, because it continues farther around the body and then folds back, the details of the fold of this kind of kilt, like the sweep of the ordinary wrapped kilt, would be visible from the right side and not from the left.

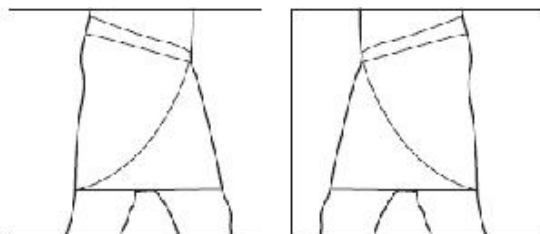
It seems possible, in fact, that for both the simple wrapped kilt and this kilt with the folded-back flap, the direction of wrap in three-dimensional sculpture was actually determined by the aspective representation in two dimensions. As Fischer has pointed out with regard to the extended left leg of standing statues and the objects carried by statues of offering bearers,¹⁰ the assumption was that any important features of the figure should be visible from the statue's right side, which is the side visible in an aspective representation of a figure facing in the dominant canonical direction. This would not have been a factor with the royal *shendyt* kilt, since that kilt, like the triangular kilt, was normally twisted to be shown frontally in two-dimensional representations, so that the wraps over both hips as well as the central tab are visible.

However, despite the assumption made by scholars writing about the direction of wrap in kilts on statuary, the mirror-image solution for the representation of wrapped kilts in reversed two-dimensional figures ('Pattern I') is not universal. In the course of my current research on the three Old Kingdom mastaba chapels in the Metropolitan Museum of Art of New York,¹¹ I have noted two additional solutions, the second of which also occurs in two variant patterns that, oddly, compound the problems created by reversals in aspective representations.

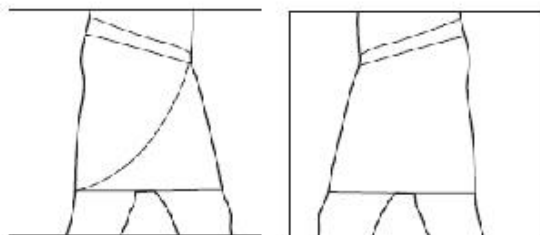
The five patterns are summarised in [Fig. 3](#); their implications for the direction of wrap and the questions of aspective representation will be discussed further below. No clear reason for the final two variants has yet emerged; however, they may have chronological implications, at least for the part of the Saqqara cemetery from which these three tomb chapels come, the area north of the Step Pyramid complex and south of the Djoser 'moat', where most of the tombs date to the late fifth dynasty.¹² Because these chronological implications are still somewhat hypothetical and may be quite limited, I have preferred the term 'pattern' to 'phase'.

Both of the solutions to the aspective problem are attested in the chapel of Raemkai, originally built and decorated for a man named Neferiretenes, which has been dated to just before the reign of Djedkare Izezi in the late fifth dynasty, but which may be somewhat earlier.¹³ Either the original owner or the artist to whom he had entrusted the decoration of his tomb chapel clearly rejected the idea of showing kilts wrapping in the wrong direction in the relief decoration. No kilts are shown with details of their wrapping in mirrored fashion on reversed figures.

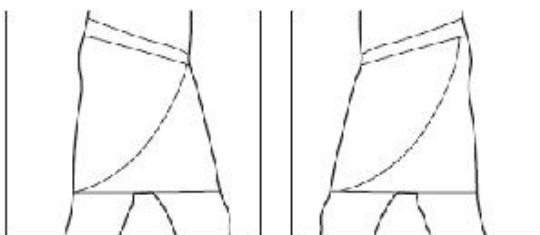
Pattern I



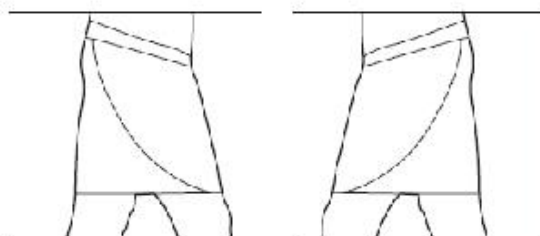
Pattern II



Pattern III



Pattern IV



Pattern V

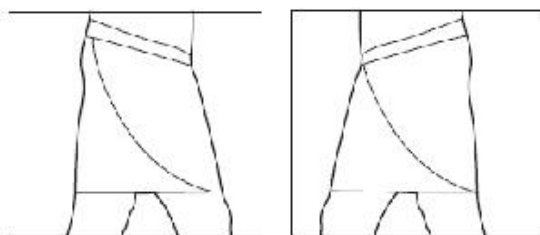


Fig. 3: A graphic summary of the five patterns observed in the representation of wrapped kilts in the Old Kingdom (drawing by the author)

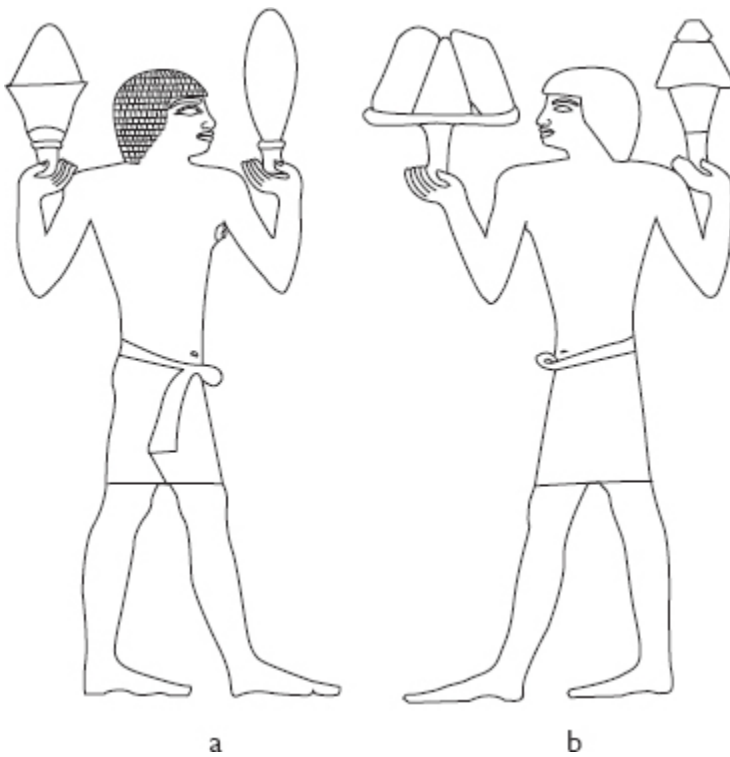


Fig. 4: Examples of offering bearers on the south (a) and north (b) entrance thickness of the chapel of Neferiretenes/Raemkai (drawing by the author)

The solution most commonly adopted here ('Pattern II') was a simple one, which was merely to show the left side of the kilt, when it faces the viewer (that is, when the wearer is facing to the left) as a blank surface. This is particularly clear on the entrance passage, where files of men on both sides apparently wore the kilt with the folded-back flap shown on the statue in [Fig. 2](#). The folded-back flap should be visible when the wearer faces right, as indeed it is in this passage ([Fig. 4a](#)); but the reversed figures on the wall opposite wear kilts with no flap visible ([Fig. 4b](#)). This pattern continues throughout the daily-life scenes on the interior of the chapel, with the exception of a single right-facing man on the west wall, whose kilt is also shown as a blank surface.

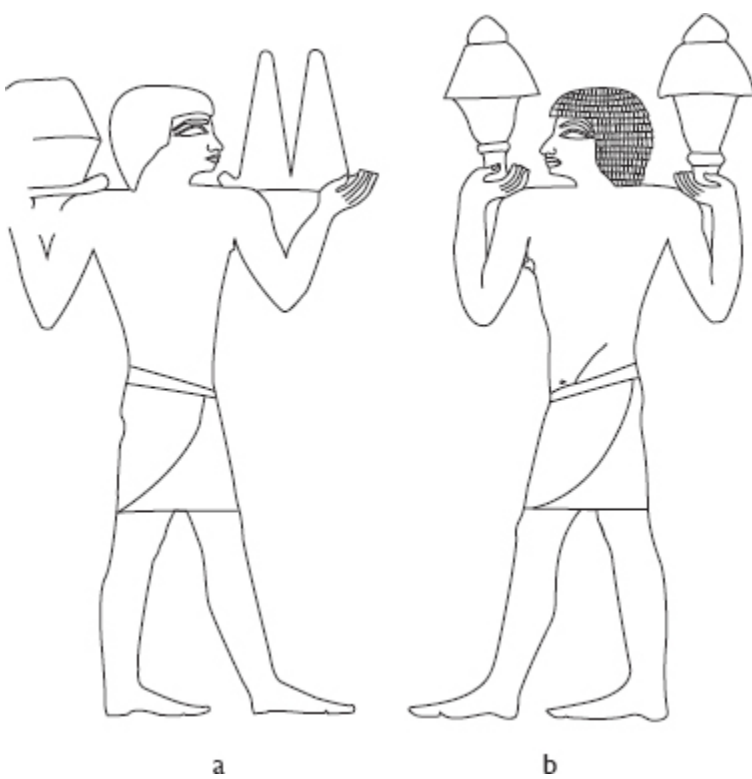


Fig. 5: Examples of offering bearers from the outer side panels south (a) and north (b) of the false door of Neferiretenes/Raemkai (drawing by the author)

The other solution used in this chapel ('Pattern III') is shown only on the panels flanking the false door. Unlike the men elsewhere in the chapel who wear kilts with folded-back flaps, the offering bearers shown here wear the simple wrapped kilt. The curved sweep of the wrap is visible, as it should be, on the offering bearers on the left panel, who face right (Fig. 5a). But for the reversed left-facing figures on the right panel, the artist has solved the problem by twisting the right-wrapped kilt around the man's body so that it is tucked in at the back (Fig. 5b).

Again, this solution exemplifies the sort of compromise that the aspective mode of representation constantly required of the artists who used it. It was clearly important to show that the kilt is wrapped, but here it was also thought important to show that it was wrapped from the right. A kilt pulled tight across the man's abdomen and thighs and tucked in at the back is never shown in statuary, and it seems unlikely that the kilt was ever worn in this way. Nonetheless, an unrealistic point of closure was found less troubling to the viewer than to show the kilt wrapped in a clockwise direction or to omit the curve of the wrapping. This preference for showing the wrap and showing it in the correct direction is not because the curved end was pleated

and conveyed higher status, because the wrapped area is not shown as pleated in this chapel, and the wearers of the backwards-wrapped kilts in are not identified by name or title. Nor is the owner of this tomb shown wearing this kind of kilt.

In understanding this solution, it is perhaps significant that the backwards wrap is shown only on the false door of this chapel. The kilts with folded flaps, shown elsewhere in the tomb chapel, could not easily be wrapped backwards. By using a simple kilt, wrapped to the back to preserve the direction of wrap, the artist distinguished the false door from the other walls of the chapel and marked it as the cult place. Alternatively, the twisted kilts may have been an innovation of Raemkai, the second owner of the tomb. Although erasures can be found throughout the chapel, only the false door shows any evidence of recarving. The change would have been a simple one: the carving of a line on each previously blank kilt. In fact, the lines of the kilts on the two sides of the false door differ somewhat: those on the left are a thin sharp line, while those on the right are bevelled on the right side, more clearly suggesting the overlap of the material. However, this does not necessarily show a temporal difference; it could also be attributed to different artisans being responsible for each side of the false door (as seems likely from other differences in the figures). If the lines showing the backwards wrap were added later, however, the temporal difference might explain the fact that the artist who carved the backwards wrap has gone to such unrealistic extremes to indicate that the kilt was wrapped, whereas elsewhere in the tomb, it was thought more important to show the direction of wrap and the place where the kilt was tucked in correctly.

The solution of the back-wrapped kilt was not original with this artist. It can be found as early as the fourth dynasty and continues to be used sporadically in later periods. In royal contexts, while the back wrapped kilt could clearly be used for officials,¹⁴ in the Sahure and Pepy II complexes, the back-wrapped kilt seems most typical of minor divinities, such as nome gods.¹⁵ It does not occur with major gods or with the king, and reversed offering bearers tend to be shown with the mirrored direction of wrap in royal contexts. This pattern extends at least into the Middle Kingdom, where it can be seen in the White Chapel of Senwosret I at Karnak.¹⁶ There, the kilt of a reversed personification of the royal *ka* is shown with his kilt wrapped to the back, while the reversed figure of the god Amun-Re on the same pillar is shown with his kilt wrapped in the wrong direction, in the same mirror-image solution shown in the drawing of Khabausokar (Pattern I).

In private contexts, the back-wrapped kilt seems to have been quite common beginning in the early fifth dynasty. In the recent publication of the large tombs in Cemetery 2100 at Giza, for example, three tombs (Merib: G 2100-1; Kanefer: G 2150; Kaninisut I: G 2155) all show a similar pattern of decoration, in which the tomb owner is shown reversed on the west wall, his back to the secondary northern false door, wearing a kilt wrapped to the

back.¹⁷ The important position of these figures seems designed to highlight the use of this direction of wrap. All these tombs date to the very early fifth dynasty,¹⁸ while earlier decorated mastaba chapels from the same cemetery do not show back-wrapped kilts in this orientation: that of Nefer (G 2110) avoids the use of this type of kilt when male figures are reversed, and that of Khentka (G 2130) and the anonymous mastaba chapel of G 2220 show the kilt of the reversed tomb owner in the mirrored manner, that is, as if it were wrapped from the left.¹⁹ In the early examples, back-wrapped kilts were often depicted on the tomb owner himself, but in the later Fifth and the Sixth Dynasties, it is more commonly found on offering bearers. This may be attributed in part to the greater variety of status-conveying kilts that could be worn by the tomb owner, particularly the popular triangular kilt, which, like the royal *shendyt* kilt, tends to be shown from the front.

The tomb chapel of Neferiretenes (and later Raemkai) is one of the earliest chapels from the area just north of the Step Pyramid complex. Another chapel from the same area, that of Kaemrehu,²⁰ now in Copenhagen, may illustrate the same pattern. These are the last of the chapels in the cemetery in which the pattern of wrapping and backwards wrapping kilts makes logical sense. The other chapels show backwards-wrapped kilts in greater numbers, but they occur in variant patterns for which the rationale is far less clear.

Back-wrapped kilts can also be seen in the Metropolitan Museum's tomb chapel of Nikauhor and his wife Sekhemhathor. Only the west wall of this chapel was brought to New York.²¹ On the wall between the two false doors, a row of offering bearers is depicted, carrying food towards the husband's false door. The kilts are all wrapped to the back, which is appropriate since their wearers are reversed, facing left. The offering bearers to the north of the wife's false door, which were rendered in paint only, also wear reversed kilts.

Only four of the offering bearers on the west wall face right, in two surviving registers to the left of the principal false door. The upper two have no visible folds in their kilts at all, but the two men in the lower register show backwards-wrapped kilts, despite the fact that they are facing in the normal direction. So while reversed offering bearers have kilts that wrap (wrongly) to the back but (correctly) counter-clockwise, normally oriented figures have kilts that wrap (wrongly) clockwise, and (wrongly) to the back, as well ('Pattern IV'). The chapel of Nikauhor and Sekhemhathor was not the only chapel in this area of the cemetery to show this pattern. The chapel of Netjeruser,²² now in Chicago, clearly showed the same variant.

The reason for the adoption of Pattern IV is difficult to imagine. The backwards-wrapped kilt may have had positive connotations because it was associated with greater accuracy or propriety of representation, even when it was used in a way that was *less* accurate. It may also have conferred status to use this backwards wrap for offering bearers, because of the fact that this

wrap was used (albeit usually correctly) for minor deities in royal mortuary temples. The reversed offering bearers, for whom the backwards wrap allowed accuracy in the direction of wrap, would tend to outnumber the normal offering bearers, because the offering bearers tend to face the southern false door on the long west wall in the typically L-shaped fifth dynasty chapels. But the existence of the normally-oriented offering bearers with back-wrapped kilts is difficult to explain except as over-enthusiasm of some sort.

One revealing circumstance, however, is the upper two (normal) offering bearers to the left of the false door of Nikauhor, whose kilts are blank rather than reversed. If this is to be attributed to the same cause as the blank kilts in the chapel of Raemkai, that is, that the sweep of the kilt is on the far side of the wearer and not visible to the viewer, their kilts, like those of the lower offering bearers with back wrapped kilts, can be assumed to wrap from the left (clockwise), that is, backwards, but to be tucked in to the front, a variant of Pattern II where reversed figures are shown with blank kilts. It would suggest that the salient point here is that the direction of wrap is mirrored, not simply that kilts wrap to the back. Oddly, this is the exact reverse of the earliest mirrored solution to the problem, where all kilts wrap to the front, so that the direction of wrap is determined by the orientation, just as it is here.

A circumstance supporting this connection between the mirroring of Pattern IV and that of Pattern I is the double tomb of Niankhkhnum and Khnumhotep, dating to the latter half of the fifth dynasty. There the tomb owners are shown with kilts wrapped to the front regardless of their orientation (Pattern I), while the offering bearers are shown with back-wrapped kilts (Pattern IV).²³

Even more difficult to explain is the pattern found in the third and largest mastaba chapel at the Metropolitan Museum, that of Perneb.²⁴ While the other two chapels are L-shaped, Perneb's chapel is one of the earliest east-west offering chapels, and the mirrored rows of offering bearers typical of this chapel type would seem an excellent opportunity for artists to find a satisfactory solution to the problem of reversed figures with wrapped kilts. Indeed, in the sixth dynasty, when this chapel type becomes almost universal, the mirrored, front-wrapped kilt (Pattern I) again becomes the standard. However, the pattern in this chapel makes even less sense than that in the chapel of Nikauhor and Sekhemhathor.

In the chapel of Perneb, the offering bearers on one wall have kilts wrapped to the back, while those opposite are wrapped to the front. However, it is the reversed figures whose kilts wrap to the front, and the normal figures whose kilts wrap to the back, with the consequence that *all* kilts wrap clockwise, the 'incorrect' direction ('Pattern V'). This is an inversion of Pattern III, in which all kilts wrap correctly in a counter-clockwise direction. I can suggest no reason at all for this variant except

perhaps the desire of the artist to play with the conventions and ring all the possible changes on this way of rendering the kilt. The backwards-wrapped kilt has clearly moved far beyond solving the problems of aspective representation and become a signal of something else. That meaning, however, is difficult to imagine.

It might be thought that the consistent clockwise direction of wrap is an early example of the adoption of the 'royal fold' that Simpson postulated for the Middle Kingdom. However, this cannot be the explanation, since the clockwise-wrapped kilts are not worn by the tomb owner, but by the men who bring him offerings and perform rituals for him. And although it first appears on tomb owners in the early fifth dynasty, the back-wrapped kilt seems usually to be relegated to offering bearers in the later Fifth and Sixth Dynasties. When tomb owners are shown wearing a wrapped kilt, it is wrapped to the front, and its direction of wrap is thus dependent upon the figure's orientation, as, for example, in the Saqqara tomb chapel of Niankhkhnum and Khnumhotep, as discussed above.

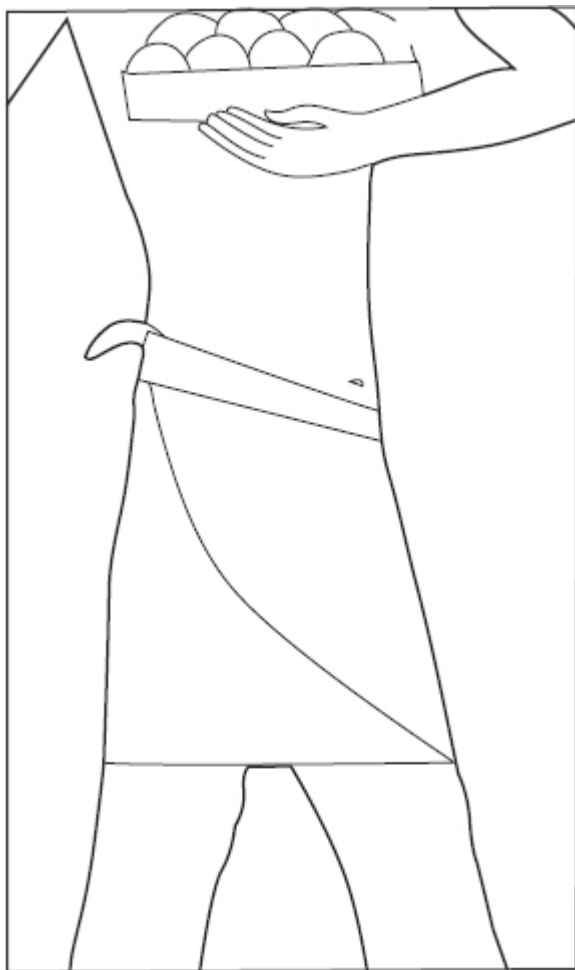


Fig. 6: Detail of a backwards-wrapped kilt with a tab in back from the chapel of Perneb (drawing by the author)

It is of interest that although the backwards-wrapped kilt in the chapel of Perneb is probably not something that would ever have been worn in reality, it is provided with a much more natural looking twist of cloth to pull the wrapping tight than the stereotypical front loop (Fig. 6). This closing is also found in the chapel of Netjeruser. It seems to be unique to this cemetery, with one exception: an anomalous officiant from the mortuary temple of Pepy II has both this back twist and also the more stylised front loop.²⁵

Both the naturalistic twist closing and the uniformly left-wrapped kilts are also attested in Chicago's chapel of Netjeruser, in the doorway leading into the inner chapel.²⁶ Netjeruser and Perneb, as well as Rashepses, the owner of a nearby tomb,²⁷ clearly belong to the same family. The chapel of Rashepses depicts an eldest son called Netjeruser; Perneb's eldest son is called Netjeruser and another son is called Rashepses; and Netjeruser has an eldest son named Rashepses and a second son called after himself. Such naming patterns usually indicate family relationships. Since the tomb of Perneb seems to be archaeologically subsequent to that of Rashepses,²⁸ and since those of Perneb and Netjeruser both use the new east–west chapel style, it seems most likely to posit that Rashepses was the father of both Netjeruser and Perneb. In this case, Netjeruser was clearly the elder brother (according to the inscriptions of Rashepses), so his tomb can be assumed to have been started first. The fact that his main chapel, probably the first part of the tomb chapel to be decorated, depicts offering bearers with kilts wrapped according to Pattern IV, while the later corridor is decorated according to Pattern V, like his younger brother's chapel, suggests that Pattern V is a development out of Pattern IV (as would seem logical). Similarly, Pattern III, in which the turning of the kilt is a rational solution to the problem presented by aspective representation, can be presumed to precede the two variants. Supporting this, Pattern III occurs on one wall in the tomb of the father, Rashepses, which otherwise follows Pattern I.

Some indication that the development can be chronological elsewhere may also be seen in the Cemetery 2100 tombs at Giza discussed above. That of Merib (G 2100-I), the chapel walls of which illustrate Pattern III, has a doorway thickness that shows Pattern IV,²⁹ while the tomb of his daughter, Nisedjerkai (G 2100-II) has only one pair of pillars showing male figures (her father Merib), and these show Pattern V.³⁰ Again the patterns appear sequentially in a group of tombs, although the Giza tombs have been dated somewhat earlier than those north of the Step Pyramid.

Table 1: A summary table of the five patterns observed

	<i>Pattern summary</i>	<i>Direction of wrap on normal figures</i>	<i>Direction of wrap on reversed figures</i>
Pattern I	normal people wrap right <i>all wrap to front</i>	counter-clockwise to front	<u>clockwise</u> to front
Pattern II	normal people wrap right reversed people wrap right <i>all wrap from right</i>	counter-clockwise to front	counter-clockwise presumably to front
Pattern III	reversed people wrap back normal people wrap front <i>all wrap from right</i>	counter-clockwise to front	counter-clockwise <u>to back</u>
Pattern IV	normal people wrap left reversed people wrap right <i>all wrap to back</i>	<u>clockwise</u> <u>to back</u>	counter-clockwise <u>to back</u>
Pattern V	reversed people wrap front normal people wrap back <i>all wrap from left</i>	<u>clockwise</u> <u>to back</u>	<u>clockwise</u> to front

The characteristics shown in boldface and underlined in the two right columns are those that are 'incorrect', contradicting the way the kilt is wrapped in contemporary statuary

As suggested above, then, there are five ways of dealing with wrapped kilts. The basic pattern, Pattern I, which in the group of tombs just north of the Step Pyramid seems to be attested in most of the tomb chapel of Rashepses,³¹ father of Netjeruser and Perneb, is the consistently front-wrapped kilt. It is used not only in earlier tombs, but also in the contemporary tombs of Akhetetep and Ptahhotep I and II, just across the 'dry moat' to the west, and continues as the predominant pattern in later periods. Pattern II, in which reversed figures are shown with blank kilts, is difficult to identify, because the lack of visible details in the kilt may be attributable to lost paint. It can only be identified with certainty in chapels like that of Neferiretenes/Raemkai, where there are significant numbers of normal and reversed figures following the same pattern.

The equally logical Pattern III is known from the royal sphere, and many non-royal tombs at Giza and Saqqara, mostly of fifth dynasty date. In royal contexts it occurs initially among officials, and later can be seen with minor divinities as well. It is never used with major divinities or kings. In non-royal contexts, it occurs initially with tomb owners themselves, but is later usually limited to offering bearers, perhaps in imitation of the royal usage. Pattern IV, the first of the two illogical patterns, is also found consistently in the tomb of Niankhkhnum and Khnumhotep, as noted above, except for the two tomb owners who are represented in Pattern I. It is here used to distinguish the tomb owners from their cult functionaries. It also occurs in several tombs in the Unas cemetery; and the even more peculiar Pattern V occurs in the tomb of Unas's queen, Nebet.³² In the sixth dynasty Teti cemetery, the original Pattern I, of mirrored front-wrapped kilts, seems to be the general rule, and Pattern III is used only intermittently. There are sporadic occurrences of back-wrapped kilts throughout the rest of the sixth dynasty, and, as noted above, the phenomenon continues to appear in royal contexts into the Middle Kingdom and was occasionally revived in even later periods.³³

The wrap of a kilt clearly held some importance. It was thought significant

enough to show it incorrectly mirrored (Pattern I) so that the wrap was visible when the figure was reversed. In other cases, the direction of wrap was given greater weight, either by showing the left side blank in reversed figures (Pattern II) or by showing it wrapped in the correct direction, but turned back-to-front when the figure is reversed, so that the wrap was visible (Pattern III). The unrealistic back-wrapped kilt then seems to have developed a significance of its own and was used in variant patterns (Pattern IV and Pattern V) that were unrelated to the problems posed by aspective representation. What that significance was remains obscure. One wonders whether the reversal of the normal that is associated with the realm of the dead (the demonic and threatening women with faces turned backwards, for example) might be alluded to by these backwards kilts. But such a hypothesis is not susceptible of proof and must remain speculative.

The direction of wrapping of kilts seems to have been used for a number of other purposes by Egyptian artists in the late Fifth and the Sixth Dynasties. In the tomb chapel of Idut (usurped from the vizier Ihy),³⁴ for example, these patterns were used to distinguish different parts of the chapel. Offering bearers throughout the tomb wear front-wrapped kilts (Pattern I), but on the walls of the most important room, the false door chamber (E), the offering bearers, regardless of orientation, wear back-wrapped kilts (Pattern IV). An exception was made for the offering bearers shown flanking the false door, who follow Pattern V: the reversed bearers wear front-wrapped kilts, while those with normal orientation wear back-wrapped kilts with pleats. A different kind of function is illustrated in the case of the chapels of Neferseshemtah³⁵ and Nikauisesi,³⁶ both in the Teti pyramid cemetery, where front and back wrapped kilts alternate, apparently for purely aesthetic reasons, to set up a kind of rhythmic variation in the wall decoration.³⁷ Yet another way in which the depiction of the wrap of kilts was used is demonstrated in the chapel of Akhethetep in the Louvre. There, the predominant pattern is pattern IV, and most kilts wrap to the back regardless of the wearer's orientation; however, the kilts of the two statues of the tomb owner wrap to the front, marking them as representations of representations.³⁸

The direction in which kilts wrap in tomb chapel decoration tells us nothing about the daily life of Old Kingdom Egyptians or the way they viewed the world; it does not even offer dependable evidence for the way they wrapped their kilts. However, these patterns illustrate the way that an apparently uninteresting detail can serve to unify a mortuary neighbourhood and perhaps become a subject of discussion and innovation among the artists decorating its tomb chapels. The fact that at one point it was thought sufficiently important to show the direction of wrap that they were willing to sacrifice other realities to the extent of turning the entire kilt front to back, and that these backwards kilts then developed other meanings and purposes, leading to ever more unrealistic patterns of representation, tells us something

about the way Old Kingdom artists dealt with the constraints of their mode of representation and suggests the fertility of the system of meanings that they construed from everyday objects.

¹ The arguments presented here formed the second part of the paper I presented at the Ninth Conference on Old Kingdom Art and Archaeology in May 2009, entitled 'Notes on a Scattered Cemetery: Three Mastaba Chapels in the Metropolitan Museum of Art'. Variations of that talk were also been presented for the ANSHE annual lecture at Johns Hopkins University (March 2009), for the Chicago Chapter of the American Research Center in Egypt (November 2009), and under the title 'Twisted Kilts and Second Thoughts', for the Fellows Colloquium at the Metropolitan Museum of Art, as well as to two smaller groups associated with the Egyptian Department at the MMA. I am grateful to the audiences of all of these talks for their attention and comments, which have considerably refined my ideas. I am also very grateful to Dorothea Arnold for giving me the opportunity to work on the tombs that inspired these ideas and to Marsha Hill for bibliographical suggestions that saved me significant amounts of time. Much of my work on this question was done during a sabbatical leave from New York University when I held the J. Clawson Mills Fellowship in Egyptian Art at the Museum; I am indebted to both institutions for their generous support.

² R. Engelbach, 'A Peculiarity of Dress in the Old and Middle Kingdoms', *ASAE* 29 (1929), 32 n.1.

³ W. K. Simpson, 'A Protocol of Royal Dress: The Royal and Private fold of the Kilt', *JEA* 74 (1988), 203–204.

⁴ N. Reeves: 'Left handed kings? Observations on a Fragmentary Egyptian Sculpture', in A. Leahy and J. Tait (eds), *Studies on Ancient Egypt in Honour of H. S. Smith* (EES Occasional Publication 13; London, 1999), 249–254.

⁵ Reeves cites a parallel from pre-modern Japan, where kimonos wrapped in one direction to show the kimono's owner alive and in the other direction to show him dead.

⁶ Reeves, in Leahy and Tait (eds), *Studies on Ancient Egypt*, 250 n. 13.

⁷ H. G. Fischer, *The Orientation of Hieroglyphs I. Reversals* (New York, 1971), 3–8.

⁸ L. Borchardt, *Denkmäler des Alten Reiches* I (Berlin 1937), no. 1385.

⁹ MMA 62.200, published as '27. Standing Man' in *Egyptian Art in the Age of the Pyramids* (New York, 1999), 207.

¹⁰ Fischer, *Orientation of Hieroglyphs*, 6–8.

¹¹ These three chapels, belonging to Neferiretenes usurped by Raemkai (MMA 08.201.1), to Nikauhor and Sekhemhathor (MMA 08.201.2), and to Perneb (MMA 13.183.3), are being published as a group because they come from the same cemetery. A fourth chapel, that of Kaemsenu, 26.9.2, PM

III², 541, dated to the early fifth dynasty, is part of a different sub-cemetery, surrounding the Teti pyramid, although it apparently predates that pyramid.

¹² The three Metropolitan Museum tomb chapels from this area, as well as others removed entirely or in part from the same area to the Ny Carlsberg Glyptotek in Copenhagen, the Field Museum of Natural History in Chicago, the Ägyptisches Museum in Berlin, and the Egyptian Museum in Cairo, were published briefly by their excavator, J. E. Quibell, *Excavations at Saqqara (1907–1908)* (Cairo 1909), 22–26, 79–88, 115, and pls 60–62.

¹³ The original decoration of the chapel for Neferiretenes included the estate name ‘Mound of Izezi’, albeit with no cartouche. K. Baer, *Rank and Title in the Old Kingdom. The Structure of the Egyptian Administration in the Fifth and Sixth Dynasties* (Chicago 1960), 292, used this circumstance to argue that Izezi was about to come to the throne when the tomb was first decorated. However, according to H. Jacquet-Gordon, *Les noms du domaines funéraires* (BdE 34; Cairo 1962), 62, this estate name occurs only with gods and private individuals, and not with kings; it thus seems more likely that this was a non-royal estate and has no bearing on the date of the tomb. It is thus possible that the original decoration of the tomb was somewhat earlier in the fifth dynasty, as the style would seem to suggest. The dating of the rededication to Prince Raemkai in the reign of Izezi is largely based on the presence of other princes of the era in the same sub-cemetery.

¹⁴ For example, in the Lisht fragment MMA 09.180.18 (*Egyptian Art in the Age of the Pyramids*, 196–197), which shows officials taking part in a ritual and is thought to date to the fourth dynasty.

¹⁵ L. Borchardt, *Das Grabdenkmal des Königs Saisu-ne^r II* (WVDOG 26; Leipzig 1910), pls 5, 19, 23, 31, and 58; G. Jéquier, *Le Monument funéraire de Pepi II*, II (Cairo 1938), pls 47, 60, 71–76.

¹⁶ P. Lacau and H. Chevrier, *Une chapelle de Sésostris Ier à Karnak* (Cairo 1969) pl. 15.

¹⁷ P. D. Manuelian, *Mastabas of Nucleus Cemetery G 2100* (Giza Mastabas 8; Boston, 2009), 40, fig 2.13 gives a summary of the decoration at a very small scale. Larger scale representations of the kilts can be seen in figs 4.31–59 (Merib), 12.87–97 (Kanefer), and 13.49–60 (Kaninisut I).

¹⁸ *Ibid*, 46.

¹⁹ *ibid*, 40, fig. 2.13; 256, fig. 8.50; and 453, fig. 16.53.

²⁰ M. Jørgensen *Ny Carlsberg Glyptotek: Catalogue Egypt I (3000–1550 B. C.)* (Copenhagen, 1996), 64–79. I am grateful to Dr Jørgensen for allowing me access to old photographs of the chapel held by the Glyptotek and to Dr Tina Bagh for helping me there. The offering bearers on the base of the false door panels clearly show Pattern I; however, the reversed offering bearers in the table scene left of the false door wear back-wrapped kilts. It is difficult to discern the direction of wrap on the normally-orientated

offering bearers in the table scene right of the false door, but one may wear a front-wrapped kilt. Kaemrehu held a priesthood in the mortuary temple of Niuserre, so his tomb can date no earlier than that king.

²¹ Quibell, *Excavations at Saqqara (1907–1908)*, pls 62–66. All the walls are published in drawings, but the details of the kilts are shown inconsistently, so only the west wall will be considered here.

²² M. A. Murray, *Saqqara Mastabas I* (ERA 10; London 1905), pls 20–25.

²³ A. M. Moussa and H. Altenmüller, *Das Grab des Nianchchnum und Chnumhotep* (AV 21; Mainz am Rhein 1977), , pls 51, 90, and 73 show the two tomb owners depicted with kilts wrapped to the front regardless of orientation in the mirrored Pattern I. In *ibid*, pls 52, 86, and 89, *ka*-priests are shown wearing wrapped kilts that are wrapped to the back, again regardless of orientation, as in Pattern IV. The compositions in plates 51 and 52, where the two patterns are juxtaposed in the thicknesses of the entrance to the rock-cut chambers, make it especially clear that this is an intentional distinction between the tomb owners and the functionaries of their mortuary cults.

²⁴ The name is almost certainly to be read Pereninebi, ‘My lord has gone forth for me’, as James P. Allen has pointed out to me. However, in deference to a century’s tradition, the better known form of the name will be used here.

²⁵ Jéquier, *Le monument funéraire de Pepi II II*, pl. 47. This man is also of interest as one of the rare examples I have been able to find in which the backwards kilt is shown on a normally-orientated figure in a royal context.

²⁶ Murray, *Saqqara Mastabas*, pl. 25.

²⁷ LD II, pls 90–94; Quibell, *Excavations at Saqqara (1907–1908)*, 23–24. The tomb is currently being re-excavated for publication by Inspector Hany el-Tayeb of the Supreme Council for Antiquities.

²⁸ A. Lythgoe, *The Tomb of Perneb* (New York 1916), 10–11, believed the mastabas of both men were built at the same time, since the spur walls of Perneb’s mastaba abut the west face of Rashepses’s mastaba, while the outer casing of Rashepses’s mastaba abuts the spur walls on the exterior north and south. However, the stepped wall of Rashepses’s western façade was clearly built as an exterior face, and there are numerous examples of outer casing being added by a family member, particularly to cover additions. Therefore, Perneb’s mastaba was clearly later.

²⁹ Manuelian, *Mastabas of Nucleus Cemetery G 2100*, 98–99.

³⁰ Manuelian, *Mastabas of Nucleus Cemetery G 2100*, 136.

³¹ The one exception is the uppermost register of offering bearers bringing wine (LD II, pl. 61a), who are reversed and are all shown with back-wrapped kilts (Pattern III).

³² P. Munro, *Das Doppelgrab der Königinnen Nebet und Khenut* (Mainz am Rhein 1993). The pattern is seen in room C of Nebet (pls 17–20),

though it is inconsistent elsewhere. The less well preserved tomb of Khenut may have had a similarly inconsistent pattern.

³³ The lunette of the British Museum's stela of Tjaiemhotep (EA 147), which is dated to year 10 of Cleopatra VII, shows Anubis and Horus at left, oriented normally but wearing back-wrapped kilts. (For a detailed photograph, see G. Robins, *The Art of Ancient Egypt*, (2nd rev. ed.; Cambridge, MA 2008), 248 fig. 298.

³⁴ R. Macramallah, *Le mastaba d'Idout* (Cairo 1935), *passim*.

³⁵ J. Capart, *Une Rue de Tombeaux à Saqqarah* (Brussels 1907), pl. 81 and A. B. Lloyd, A. J. Spencer, and A el-Khouli, *Saqqâra Tombs III. The Mastaba of Neferseshemptah* (ASE 41; London 2008), pl. 9 shows four registers of paired, normal (right facing) offering bearers. In the upper register, both wear front-wrapped kilts. In the second register, the first man wears a kilt wrapped to the back while the second wears a front-wrapped kilt. In the two lowest registers, the first man wears a front-wrapped kilt, while the second man wears a kilt wrapped to the back. Similarly, in the lowest register of the scene shown in pls 99–100, ten men are shown moving rightwards in normal orientation. The first five of them carry forelegs and wear kilts wrapped to the front; the last five bring live poultry, and wear kilts wrapped to the back.

³⁶ N. Kanawati, *The Teti Cemetery at Saqqara VI. The Tomb of Nikauisesi* (ACE Report 14; Warminster 2000), pl. 64 shows offering bearers in the lowest register with front-wrapped kilts, while those in the register above it are shown with their kilts wrapped to the back. All face right, that is, are normally oriented. Unfortunately the wrap of the kilts in the higher registers are not clear.

³⁷ This use of an unrealistic iconographic distinction, which has meaning in other contexts, to create a graphic rhythm is reminiscent of the use of variant skin colours noted by Deborah Vischak at al-Hawawish (D. Vischak, paper to be published in the proceedings of the conference 'Artists and Painting in Ancient Egypt', held in Montepulciano, Italy, Aug 23–24, 2008. The same paper was presented at the conference published in this volume).

³⁸ C. Ziegler et al., *Fouilles du Louvre à Saqqara I. Le Mastaba d'Akhetetep* (Louvain and Paris 2007), fig. 34, shows the tomb owner and four offering bearers, all reversed, wearing back-wrapped kilts, that of the tomb owner being elaborately pleated. The two men censing before the statues, who are normally oriented also wear back-wrapped kilts, while the statues, in reversed orientation, wear kilts that are wrapped to the front. Aside from their location in statue shrines, the statues are not otherwise distinguished from the men represented. While kilts are shown wrapping to the front in daily life scenes in this chapel, those men shown bringing food directly to the tomb owner (figs 38 and 39) are shown with back-wrapped kilts.

And where are the viscera...?

Reassessing the function of Old Kingdom canopic recesses and pits

Teodozja I. Rzeuska

Introduction

There are ideas in archaeology which spring from hunches or a belief that things ‘should or could have been like this’, frequently without clear and irrefutable evidence. They were then repeated uncritically by following generations of scholars, long enough to become imbued with a life of their own. They are no longer theories, but dogma beyond any need for reconsideration. These ideas tend to become as permanent and irrefutable as the names that stand behind them. Meanwhile research has moved forward and archaeological methodologies have changed extensively, prompting and even obliging researchers to revise their views on the subject of many apparently dogmatic ideas.

An ideas worth reconsideration is the recesses and canopic pits found in some Old Kingdom mastabas. The recesses, which are encountered mainly in tombs of the early fourth dynasty, are small rectangular rock-cut niches, mostly in the south walls of burial chambers, nearer to one of the two corners, on the level of the floor or just under the ceiling (Fig. 1). Canopic pits are just as small, rectangular in shape, cut into the floor in the southern or south-eastern part of the burial chambers, next to the sarcophagus (Fig. 2a). The commonly accepted idea is that recesses were the first to appear and were replaced over time with canopic pits.¹ Such changes are indeed observable, but one should note the hybrid mastaba of Seshemnefer III in Giza (see further below), which is furnished with both a recess and a pit (Fig. 2b). Both features are thought to have served as special repositories for the viscera removed from dead bodies during the mummification process (see below). The point is, however, that there has never been a shred of evidence

coming from the caches as such to support this idea – no remnants of mummification and no canopic jars. Considering the numbers of canopic containers that have survived from the Old Kingdom, it does seem strange that not one was found inside any of these pits allegedly made to hold them. Let us then take a closer look at this intriguing architectural feature of Old Kingdom tombs and reanalyse the finds and the conceptions behind their function, all the more so since three of Egyptology's luminaries – Petrie, Reisner and Junker – are involved.²

Recesses in the Maidum mastabas and the confusion around the mysterious packages

Petrie was the first to raise the issue of recesses in mastabas and their possible function. He had discovered 21 canopic recesses in the south wall and four canopic pits in the floor of mastabas from the times of Sneferu in Maidum.³ In the recesses in the mastabas of Rahotep (mastaba 6) and Ranefer (mastaba 9), he found some mysterious packages of wrappings and more bundles of wrappings in a recess in the mastaba of Nefermaat (mastaba 16). Here is a quote from Petrie's report on the mastaba of Ranefer:

In the recess in the south end, similar to that in Rahotep's chamber, there were parts of the internal organs embalmed, forming lumps of resined matter wrapped round in linen, and fragments of such were in Rahotep's recess. Some insect had lived on it for generations, and the place was deep in the cast skins. There was no sign of these organs having been in jars or enclosures; and it seems as if these recesses in the tombs were intended to lay the internal parts after embalming, before the use of jars for such was introduced.⁴

Sepulchral Pit of Rahotep.

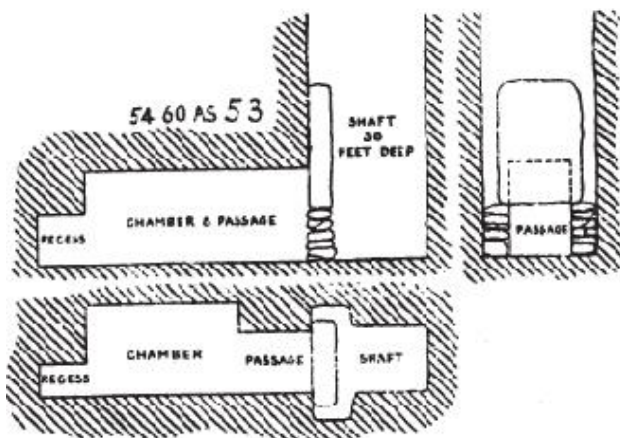
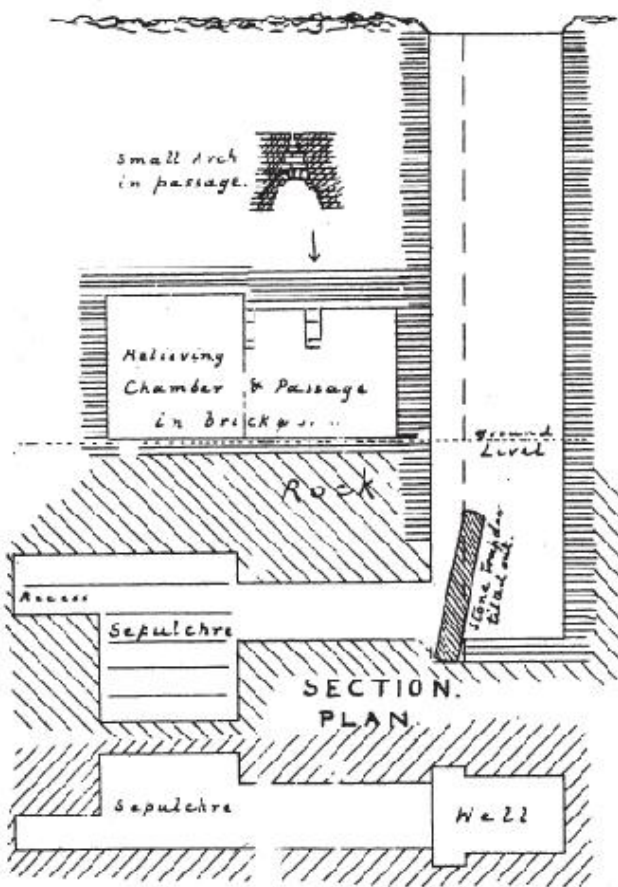


Fig. 1: Examples of burial chambers from Maidum with recesses: a) under the ceiling in mastaba 6 of Rahotep (Petrie, Medûm, pl. VII) and b) at floor level in anonymous mastaba 69 (Petrie, Meydum and Memphis III, pl.

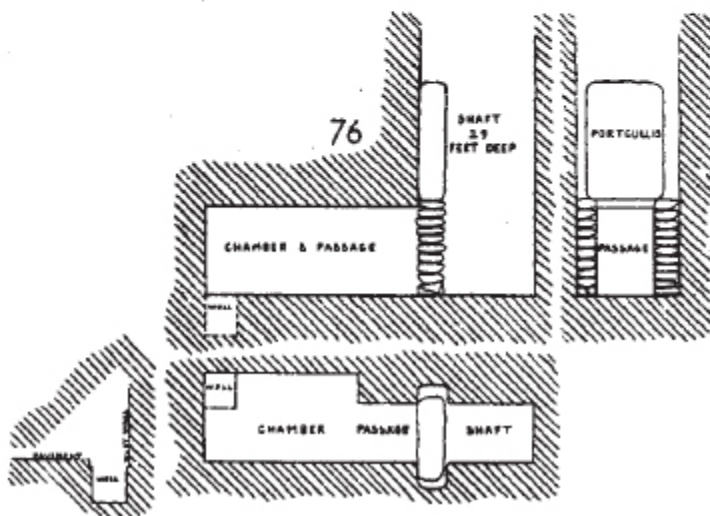
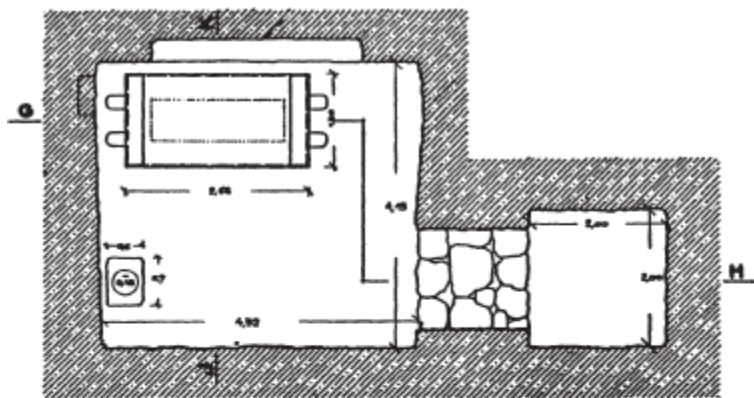


Fig. 2: a) Mastaba II from Giza with a canopic recess in the floor (Dunker, Giza I, 204), b) burial chamber of Seshemnefer III from Giza with both recess and canopic pit (Dunker, Giza III, 197)

One can easily follow Petrie's line of reasoning in this respect. He seems to have assumed that since the chamber contained the almost undisturbed mummy of Ranefer and there were 'lumps of resined matter wrapped round in linen' in the recess, and four of them for that matter, then in keeping with the knowledge of the times – after all there were four canopic urns – these four packages *must* have contained the embalmed internal parts of the deceased. Petrie assumed this idea *a priori*, without actually analysing the contents of the packages, and this led him straight to the next assumption that since packages of embalmed viscera were found in the recesses, then *ergo* the recesses were presumably intended to hold the internal parts. He failed to note some circumstances which refuted his idea from the start,

although it is true that he never stated his theory as anything more than just a possibility.

What did these mysterious packages actually contain? Other finds can be helpful in determining the contents, such as the five packages in mastaba 17 in Maidum (Fig. 3), even though they come from the sarcophagus and not a recess, which are described as



Fig. 3: Wrappings found inside the sarcophagus in mastaba 17 in Maidum (UC 30896; courtesy UCL, Petrie Museum)

The wrappings are of fine gauze, soft and smooth as silk, measuring on the warp and woof: 155 × 60 threads to the inch, 102 68, 140 60, 128 73, 123 62. A few fragments of very coarse loosely woven cloth were also found in the corn.⁵

The three packages which were found in the sarcophagus were examined by Dr. Ruffer, Director of the Quarantine Dept. Alexandria, who reports the contents to be only vegetable matter. Parallel to this is his report, that the packages, which were returned to the body, generally contain only a part of the organ, the rest of the package being filled out with vegetable matter and mud.⁶

The wrappings are currently in the collection of the Petrie Museum of the University College London.⁷ It should be noted that the burial chamber of mastaba 17 was not furnished with a recess and this must have been the reason why the packages were placed directly in the sarcophagus. Can it be assumed that the packages in the recesses of the mastabas of Rahotep and Ranefer and those in the sarcophagus of mastaba 17 are of the same kind? There is much in favour of this, although complete certainty will always be

lacking. More importantly, however, the only examined packets from Maidum, which were supposed to contain viscera, contained nothing of the kind.

The fifth set of wrappings was discovered by the Polish-Egyptian mission of the Polish Centre for Mediterranean Archaeology, University of Warsaw, when excavating a necropolis situated to the west of the pyramid of Netjerykhet in Saqqara.⁸ This set is somewhat later in date as it originates from the end of the sixth dynasty. The wrappings had been placed inside a wooden chest along with two red-slipped bowls and the box was left in burial chamber C2/10 of Corridor 2 behind the east façade wall of the ‘Dry Moat’ of Netjerykhet. The chest stood in the south-western corner of the chamber, between the sarcophagus and the south wall of the burial chamber, in a position similar, if not identical to that of the recess with regard to the sarcophagus. Made of cedar wood, it measured 69 cm by 34 cm and was 22 cm high. At the time of discovery it had fallen to pieces, the pegs once holding it together evidently having decayed. The front of the box had dropped forward and separated into three pieces, the sides had fallen to the right and left, and the back, preserved whole, was left leaning back against the rock wall. The lid remained in place but was broken into three parts. The underside, which could not be seen at the time of discovery, stood on two pieces of wood 9 cm wide, attached parallel to the shorter sides. Both faces, inside and outside, of the box walls were painted with white gypsum paint. Once the fragments of the lid were removed, the contents were revealed: two broken ceramic vessels and four packages of linen wrappings. The broken bent-sided bowls, including one with a spout-rim, could be fully reconstructed. The vessels represent forms and surface treatment typical of the late Old Kingdom. One of the wrappings was very badly damaged, but the remaining three were intact and measured respectively 18–20 cm in length, 11–12 mm in width and 4–5 cm in thickness (Plate 12). The packages are light brown in colour on the outside and dark brown to black on the inside, leaving the impression that they had been used as wrapping for some substance. Isolated layers of bandages can still be discerned, although they are so fragile that they disintegrate under the touch.

Like Petrie before them, the excavators assumed that the packages contained embalmed viscera. However, DNA analysis of remains on the outer and inner wrappings revealed no presence of human or animal tissue and anatomopathological examination also gave negative results. On the other hand, a FTIR (Fourier Transform Infrared Spectroscopy) analysis demonstrated the presence in all four samples of organic substances: oil, resin, protein, polysaccharides – plant gums. Traces of non-organic substances, gypsum and calcium carbonate, were also observed, these presumably coming from the coat of gypsum whitewash on the walls of the box.

Based on the results of these examinations there can be no doubt that the

packages contained not embalmed viscera, but bundles of linen cloth soaked with substances, like oil and resin, that are associated with the embalming process.⁹ Were the wrappings from Maidum also devoid of any embalmed viscera? If the wrappings from mastaba 17 in Maidum and those from Saqqara were empty, the same could be true of the other wrappings from Maidum, although it should be reiterated that there can never be any certainty as to this. Added to the sets of wrappings already described above are some remains of textiles found in a recess of the mastaba of Nefermaat in Maidum:

From the walled-up recess in the south wall came: some pieces of board about 3/4 inch thick, neatly shot at the edges; evidently from some small box. A small shield-shaped piece of wood with dowel holes in it, which apparently had been used for patching a bad place in the coffin. A largish piece of wood, bearing a dovetail 1.7 inch wide. And a small twist of fairly fine linen. But no signs of embalmed organs were found, here or anywhere else.¹⁰

Quite obviously yet another recess in a burial chamber did not yield any packages or embalmed remains. This find, as well as the results of examinations made on the wrappings from mastaba 17, should have been sufficient for Petrie to reconsider his theory about the role of recesses. Yet he did not.

Seeing that the finds from Maidum presented above are the sole grounds for the theory about the role of recesses and pits, one is logically obliged to reconsider their function. If architects planned them and builders made them, then they must have served some specific purpose. There is little to suggest that these recesses were made for keeping internal organs and since none of the packets found in them were examined, they cannot be used as evidence. Those that have been examined did not contain any traces of human tissue. Let us then take a closer look at the other finds from recesses in the hope that they can help in solving the mystery.

When theory turns into dogma

The next scholar to discuss recesses and pits, their function and especially evolution, was Reisner, and it is he who is directly responsible for the longevity of the theory concerning these caches. During his extended excavations in the Giza necropolis Reisner discovered 59 different 'receptacles' which he classified accordingly:

- 'canopic pit' in the south-eastern corner of the burial-chamber (45 examples);
- 'canopic recess' near the south-eastern or the southwestern corner (eleven, of which seven in the south-eastern and four in the south-western corner);
- 'built canopic chests' (three examples).¹¹

In his monumental publication of Old Kingdom funerary architecture Reisner devoted a whole chapter to this issue. We read:

Another feature that has some interest is the cubical niche in which the wrapped packages of entrails were deposited, the canopic receptacle. This first appears, as far as we know, in the early open-trench and pits tombs at Medum. In these it was a niche in the south wall of the burial-chamber near the SE corner at floor-level. This type of canopic niche in the SE corner continued in use in the shaft tomb, particularly in those of the far western cemetery. But in three corbel-roofed chambers of Neferma'at (no. (19) of the list), Rahotep (No. (22)), Ranofer or Khent (No. (23)), the canopic niche was high up in the south wall under the corbel, mere variation of the older position. In the shaft tombs of the far western cemetery in four cases the canopic niche in the south wall was replaced by a canopic pit of about the same size sunk in the floor near the SE corner. In the Cheops tombs at Giza in the early cemeteries of the western field, the canopic receptacle was always a pit also sunk in the floor near the SE corner. In the eastern field in the tombs made near the end of the reign of Cheops and those from the first half of the reign of Chephren, there was a reversion to the older and probably traditional type of canopic niche in the south wall at floor-level near the SE corner. Thereafter the canopic niche was shifted in a certain number of tombs (see particularly G 7050–7070) to the south wall near the SW corner, but still at floor-level. Most of the tombs from the end of Dyn. IV and later had neither canopic niche nor canopic pit, but as many of these contained limestone canopic jars, the canopic receptacle must have been a small chest. The canopic packages of Queen Hetepheres I were placed in an alabaster box containing four compartments, and a similar compartment chest may have been used in some of the later private mastabas. The canopic packages were probably laid simply wrapped in linen in the canopic niches and pits of Giza and Medum. The limestone jars may have been placed in wooden chests.¹²

He summarised his views a little later, in the first volume of the Giza necropolis publication:

The removal of the viscera and brain was an essential part of the process of true mummification. The first dated evidence is that given by the canopic chest of Queen Hetep-heres I found in the secret tomb at Giza. The internal organs had been made into four packages wrapped in linen, and these packages had been placed each in one of the four compartments of the alabaster chest and covered with a solution of natron in water. The tightly fitting lid

had been tied on with a thin cord which had been sealed with a lump of mud bearing impressions of the seal of the *wabt* of Cheops. The chest was walled up in a rough recess in the western wall of the burial-chamber. (...) The evidence is given not only by the length of the coffin (of the queen), but more particularly by the canopic pit or recess made to take the canopic packages or, alternatively, a small wooden box containing those packages. The canopic pit in the SE corner of the burial-chamber and the canopic recess in the south wall are seen definitely developed in the sloping-passage tombs of Medum (reign of Sneferuw): see Tomb Development, Ch. IX (quoted above). It is to be assumed that both these types of canopic receptacle were closed with a limestone lid or slab as was the case at Giza. (...). It is further to be noted that canopic niches or pits do not occur in any of the burial-chambers of kings down to the end of the Old Kingdom. It is to be presumed that in the royal chambers of Dyns. III-VI the canopic packages were contained in stone boxes set on the floor of the chamber.¹³

The function of the chest of Hetepheres I was explained in an identical manner in the second volume of the Giza publication:

Inside, the box was divided into four compartments by narrow walls and one dry compartment was 26.2 cm deep. This dry compartment contained a mass of decayed organic matter, but amazingly enough, the other three compartments retained about 5 cm of yellowish liquid which was found by Lucas to consist of a 3 per cent solution of natron in water. In this lay the remains of the canopic packages which contained the entrails of the queen; all that has survived of the mortal remains of the mother of Cheops.¹⁴

These quotes leave no doubt that Reisner had assumed with full conviction the idea that ‘canopic’ recesses and pits contained ‘wrapped packages’ with entrails, despite the fact that he never once reported finding any wrapped packages in the said recesses and pits. In describing the mastabas which he explored in Giza, he used the following words: ‘There was a canopic pit in the chamber intended to take some sort of receptacle for the canopic packages.’¹⁵ Junker particularly mentioned the absence of finds of this kind from Giza:

Nach der zurückhaltenden Äusserung Reisners (Annales, i.c., S. 234) zu schließen (‘The hole may have contained the entrails’) muss angenommen werden, dass sich auf seiner Konzession kein klares Beispiel einer solchen Verwendung fand, auch in seinem Bericht über die späteren Grabungen auf den CheprenFriedhof wird nichts über einen solchen Fund erwähnt.¹⁶

Reisner grounded his whole theory in what Petrie found in the recesses

and pits of the tombs in Maidum, ignoring completely any doubts that Petrie may have expressed concerning their function. Petrie in fact seems to have been much more cautious in expressing this idea than Reisner, who went a step too far in his reasoning. He not only accepted as a certainty that the recesses contained organs extracted in embalming, but based on this conviction, he jumped to the conclusion that the chest of queen Hetepheres actually contained the viscera. However, Lucas, who was involved in the examination of the content of this chest and who analysed merely the solution of natron in water, had this to say about the packages:

In each compartment of the box is a flat package wrapped in woven fabric (presumably linen) that almost certainly contains viscera.

Summary: **If it be accepted***[emphasis by the present author]* that the packages contain viscera, it is proved that in the fourth dynasty the viscera of a royal personage were preserved in a natron solution.¹⁷

Lucas quite obviously does not *know* that the packages contained the viscera of the queen; he only assumes this and never once does he say that he actually examined the packages to prove that they contained the entrails. Neither does Reisner, as a matter of fact, reporting only that he himself ‘recognized’ the canopic wrappings:

The compartment on my right hand which I saw first contained a flat-topped deposit of organic matter which I at once recognized as a Canopic packet wrapped in linen, that is, a package containing viscera of the queen which had been removed in the process of mummification. (...). Never before had any liquid been found of this amazing antiquity. A week later Mr. Lucas drew off samples from each of the two compartments and analyzed them. Both were practically the same – a three per cent solution of Egyptian natron on water. (...) The yellow color of our fluid is due to the presence in solution of a small quantity of organic matter from the Canopic packages.¹⁸

Despite there being no analyses of the wrappings, a whole generation of Egyptologists after Reisner accepted in good faith that the chest contained the queen's viscera. Suffice it to mention just one article on the evolution of canopic recesses and pits that refers to the chest of Hetepheres:

Le coffre à canopes de la reine Hétep-hérès I, en albâtre, était divisé en quatre compartiments par des parois étroites. L’analyse des restes de matière organique qui se trouvaient encore dans les compartiments a permis d’établir le contenu du coffre; il s’agit bien d’organes internes, qui furent placés dans quatre paquets et enveloppés dans de la toile.¹⁹

This is an excellent illustration of how assumptions and theories turn into

scholarly axiom – it is no longer the liquid that had been analysed, but the organic remains and these were proven to be the queen's viscera.

A similar opinion was presented in the summary of mummification during the Old Kingdom in the catalogue of the exhibition 'Mumien: Der Traum vom ewigen Leben':

Die für eine Chronologie der Mumifizierungstechnik wichtigsten Belege stammen aus dem königlichen Umfeld. Um 2600 v. Chr. wird für die auf Residenzfriedhöfen bestatteten Verwandten und hohen Beamten das Entfernen der inneren Organe üblich und somit eine Weiterentwicklung der künstlichen Mumifizierung offenkundig; die Toten wurden jetzt ausgestreckt begraben. Für die Anfangszeit der 4. Dynastie lässt sich die Eviszeration nur indirekt durch Grabwandnischen mit je vier Vertiefungen nachweisen; darin dürfen die vier Arten der Eingeweide – Magen, Gedärm, Lunge und Leber – deponiert gewesen sein, ein Verfahren, das später noch angewandt wurde, wenn nicht Kanopen, das sind besondere Krüge für inneren Organe, oder Kästen zum Einsatz kamen. Das früheste Zeugnis eines Eingeweidebehälters fand man im Grab der Hetephehes I, der Mutter des Cheops, deren in Leinen gehüllte innere Organe in einem viergeteilten Alabasterkasten aufbewahrt waren. Eine dem Leinen anhaftende Flüssigkeit erwies sich als dreiprozentige Natronlösung: einer der wenigen frühen Hinweise auf den Einsatz von Natron (...). Die Grabanlage von Meresanch III., der Enkelin des Cheops und Gattin des Chephren, liefert den ältesten Beleg für das Aufbewahren der Organe in vier Kanopen, die hier zusätzlich in einen Kanopenkasten eingebracht sind. Zwar wurden nun gelegentlich die Eingeweide entfernt. (...) Mit der Mumie des Privatmannes Ranefer (4. oder 5. Dynastie, um. 2500 v. Ch.), die man in seinem Grab in Meidum neben seinem in einer Nische gelagerten und in Leinen eingehüllten Organen fand ist der nächstjüngere Stand der Mumifizierungspraxis belegt. (...) Wie inzwischen üblich hatte die Balsamierer den Körper vollständig in mit Harz getränkte Leinenbinden und –tücher gewickelt; zudem – auch dies kommt neu hinzu – war der Unterleib mit harzgetränktem Leinen gefüllt worden.²⁰

The paradox is that even as he over-interpreted his discovery, Reisner was in possession of data that, had he looked at them, would have permitted him to view the recesses and pits in a different light.

Blessed doubts

Junker, who worked in the Giza necropolis at the same time as Reisner, was

much more cautious in his opinions on the function of the recesses and pits. In the first volume of the series devoted to the necropolis in Giza, he described the pits which he had found and proposed to interpret them as receptacles for either the reserve heads or the entrails of the individual interred in the burial chamber.²¹ The first possibility was suggested by the need to have in a tomb a special place to keep these priceless heads, in similarity to the statues deposited in the *serdab*. Following a detailed explanation and a consideration of the arguments for and against, he decided against the idea and naturally moved on to the other one, that the recesses and pits were intended for human viscera.

Dagegen lassen sich für die andere Deutung, nach der in den Vertiefung die Eingeweide beigesetzt wurden, verschiedene Gründe beibringen. Zunächst hat man in einigen Nischen in Medûm umwickelte Eingeweideteile gefunden.²²

In confirmation of this idea he quoted Petrie's published finds from Maidum, from the tombs of Rahotep and Ranefer.

Es sind freilich diese beide Fille die einzigen bisher bekannt gewordenen, in denen sich sichere Nachweise der inneren Organe in dem kleinen Nebenraum fanden.

But he admitted that no such finds were forthcoming either from his concession or from that of Reisner:

Das gleiche gilt von den Anlagen unseres Abschnittes, wir fanden nirgends eine Spur solcher harzgetrunknen Klumpen, weder in noch neben der Höhlung. Es ist dieser Befund freilich nicht unbedingt entscheidend, denn bei der vollkommenen Plünderung der Kammern mögen diese weniger widerstandsfähigen Dinge vollständig vergangen sein. Vielleicht wäre es zu empfehlen gewesen, Proben des Inhalts jeder der Höhlungen chemisch untersuchen zu lassen, aber da sich kein irgendwie zusammenhängenden Stücke darin nachweisen ließen, schien es uns damals nicht erforderlich, wiewohl wir uns der Möglichkeit bewusst waren, dass die Vertiefung für die Beisetzung der Eingeweide gedacht war.²³

Despite this he did not refrain from citing the presumed function of the recesses and pits as an axiom in successive volumes on the Giza necropolis:

Beide Arten der Nischen²⁴ sollten wohl in gleicher Weise die Eingeweide der Leiche aufnehmen; die versenkten Behälter entsprachen dabei in der 4. Dynastie der Eingeweidekiste, die im Grabe der Mutter des Cheops in einer Wandnische stand.²⁵

He also failed to note anything wrong in the information about the content of the chest of queen Hetepheres: 'ein Alabasterkasten, der vier

Eingeweidepackete enthielt, in Leinen eingewickelt und von einer blassgelben Flüssigkeit umgeben.’²⁶

Even so, one cannot but think that Junker, despite having accepted and repeated the theory, was not entirely persuaded. He was worried by the fact that he never found anything in his excavations to prove this tempting idea and he expressed his doubts by discussing at length the crucial issue of mummification in the Old Kingdom:

Man könnte nimlich aus der Aufbewahrung der Eingeweide in den Nischen oder Versenkungen schließen, dass damals der vollkommener Prozess der Mumifizierung allgemein angewandt wurde; aber dem widerspricht der Befund bei dem Resten der meisten Leichen.²⁷

Indeed, there does not seem to be any real evidence for proper embalming with the use of natron and the removal of entrails from the Old Kingdom.²⁸ This leads us to question – slightly outside the scope of this article – for what the canopic jars in the Old Kingdom were intended, if not for the viscera that were not removed from the body. The question is all the more intriguing, considering that none of these jars was found to contain internal organs, and that many of them are actually dummy vessels.²⁹ In only one case was it reported by Hassan that the four canopic jars he had found contained ‘original’ material, whatever that means, because it could be wrappings just as well as the *dakka*, which is deposited in the burial chamber.³⁰

Let us consider at this point the atypical mastaba of Seshemnefer III (Fig. 2b) discovered by Junker in Giza. It is a hybrid, containing both a recess and a pit:

In der Südostecke des Raumes ist im Boden eine Vertiefung angebracht, 0,60 × 0,70–0,45 m; es ist der überlieferte Platz für die Unterbringung der Eingeweidekrüge. Außerdem aber findet sich eine Nische von 0,55 m Breite und 0,25 m Tiefe in der Südwand gegenüber der Sargmitte; solche Wandnischen finden sich gelegentlich statt der Bodenversenkung (...). Ob in unserem Falle Nische und Vertiefung die gleiche Bestimmung hatten, je für einen Teil der Kanopen?³¹

This particular solution seems unlikely; it is possible that even as the burial chamber was being prepared, work on one form of the cache was aborted in favour of a new conception.

Last but not least, it is noteworthy that Selim Hassan prudently did not comment on the function of these recesses and pits. He mentioned them on only one occasion, describing one of the burial chambers in Giza where there was ‘a small niche,(..) probably to contain the canopic jars’ in the eastern corner.³²

If not canopic, then what?

It is difficult to avoid the impression that not enough attention was paid to what *was actually found* in these caches, concentrating instead on what *should have been* there. Most certainly no canopic jars were found in them; moreover, it seems to have been the rule than when canopic jars were present, the recesses and pits were missing. This does not seem to be a mere coincidence and should prompt thought. Indeed, the present writer is only echoing doubts about Reisner's scenario that have been voiced among scholars in recent years. For example, Grajetzki, who also had doubts about the purpose of canopic pits, wrote:

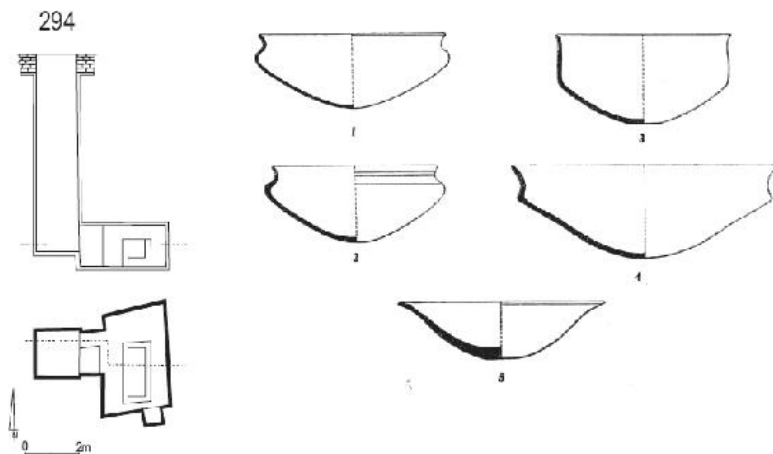


Fig. 4: a) Plan of mastaba and section through the shaft of burial chamber 294 in Giza and b) reconstructed vessels found in a recess in the burial chamber (Hassan, Giza II, figs 171 and 174; a) is redrawn from Hassan)

In the floor there is a rectangular hole, which may once have contained Canopic jars, although this is not certain.³³

Let us then go back to the beginning and take a collective look at the finds from the caches, especially as their importance as a source is emphasised by the apparent connection with what has been found in so-called ‘false’ shafts. ‘False’ or ‘unfinished’ shafts, meaning shafts without burial chambers at the bottom, are an extremely interesting architectural element of funerary complexes of the late Old Kingdom.³⁴ They are visibly shallower than the burial shafts, being mostly from 1–2 m deep, and are, on the whole, not cut in the rock, but made in the superstructure of the mastaba. They are also smaller than the burial shafts in terms of the size of the opening and are located usually in the southern section, south or south-west of the burial shaft, which is always in the central, and only occasionally in the northern, part of a funerary complex.³⁵ Estimating the mutual position of the shafts and the size of their mouths gave robbers a quick orientation in the overall

layout of the Old Kingdom funerary structures. Since they also knew that there was nothing of value to them in the shafts without burial chamber, paradoxically they left some of these deposits undisturbed for the scholars of today.

The list of finds in such examples includes:

a) packages from recesses in three tombs, of Rahotep, Ranefer and Nefermaat in Maidum – resinated bandages which were not examined, hence it is not known whether they contained anything;

b). ‘broken bones together with a few pieces of charcoal’ from a recess in tomb C of the Great Western Tombs in Maidum;³⁶

c). finds from the recess of a mastaba of shaft 294 in Giza (Fig. 4):

In the niche which is cut in the southern wall of the chamber: Five bowls of fine red ware. The last two bowls were found intentionally broken into two pieces, as we can see from the stone placed over these pieces. Undoubtedly this was done for a religious purpose (...) From No. 4, twenty-seven pieces were found, while from No. 5 only eight pieces still remain and the rest is lacking.³⁷

Not too much at first glance, but when considered in the light of the objects found in the various ‘false’ shafts, these finds take on new meaning.

Shafts without burial chambers have been studied in Egyptology on a number of occasions.³⁸ In the late Old Kingdom West Saqqara necropolis excavated by archaeologists from the Polish Centre of Mediterranean Archaeology of the University of Warsaw, sealed ceramic deposits were discovered in five of the shafts without burial chambers.³⁹ These deposits mostly consist of broken red-slipped plates and bowls. Let us consider as an example the deposit from false shaft 34 situated in the mastaba of Pehi (Fig. 5). The shaft was just 1.60 m deep and was filled with limestone chips. At the bottom there was a deposit composed of fragments of a wooden chest, broken red vessels, including a lid, four Maidum bowls, one plate, nine bent-sided bowls of which three were spouted, four miniature beer jars, fragments of textiles, shells, flint tools and unspecified organic remains (Fig. 7). All the vessels were made of Nile silt B1 or B2 and were red-slipped (Fig. 6, Plate 13).

The compact mass of limestone chips in the false shafts has no aeolic sand mixed in, demonstrating that the filling occurred at one time, very likely during the funeral ceremony. The deposits are also occasionally accompanied by shreds of textiles, wooden boards, which could be part of chests, organic remains, shells, flint tools and miniature beer jars made of unfired clay. However, not once were all of the above-listed categories found together in a single deposit. Similar deposits in false shafts were found in other cemeteries at Saqqara⁴⁰ and Maidum.⁴¹ At least two such deposits were discovered by Reisner himself in Giza.⁴² The one found in mastaba G

6052 came from ‘false’ shaft B situated in its south-western part; the shaft was 2.25 m deep (Fig. 8). The deposit found in it consisted of at least 31 vessels. All were red-slipped. The deposit was interpreted by the excavators as being of a secondary nature.⁴³

Vessel sherds appear as a component of all of the ‘false’ shaft deposits. The circumstances of discovery and the fact that these vessels are usually restorable constitute proof that the pottery had been broken on the spot, shortly before being placed in the shaft; indeed, it could have been broken simply by throwing down into the shaft. The red colour of the vessels and the fact that they were all broken brings to mind the ritual of ‘Breaking of the Red Vessels’. In the Old Kingdom, this ritual is not confirmed in any of the known iconographical sources,⁴⁴ but it is mentioned in the lists of offerings,⁴⁵ where it appears as one of the activities completing the ritual of offerings.⁴⁶ Papyrus Ramesseum E mentions ‘bearers of red vessels’.⁴⁷ The term *dšr-t* has been assumed to refer to small biconical vessels with a rounded bottom, like those found in shaft G 7000 by the pyramid of queen Hetepheres.⁴⁸ Yet none of the vessels found in the shafts without chambers recalls this ‘classic’ small *dšr-t* vessel in shape. It should be taken into account that in the case of Hetepheres we are dealing with royalty (mother and wife of a king), while the tombs in the necropolis in West Saqqara belonged to the middle class. It is possible that in the Old Kingdom some vessel shapes, like this *dšr-t*, could have been reserved for the royal family. This is suggested by the absence of this type of vessel from the private cemeteries in Saqqara, as well as Giza. On the other hand, the word seemingly refers to the colour, and not the shape of the vessel, and could possibly designate other types of red-slipped clay vessels.⁴⁹ The determinative used in recording the ritual on lists of offerings also points to this; a broken, slender jar lying horizontally is usually depicted in the offering lists. Also of significance for the interpretation of these deposits is a find from the undisturbed burial chamber of shaft 294 at Giza (see above n. 34) (Fig. 4b).

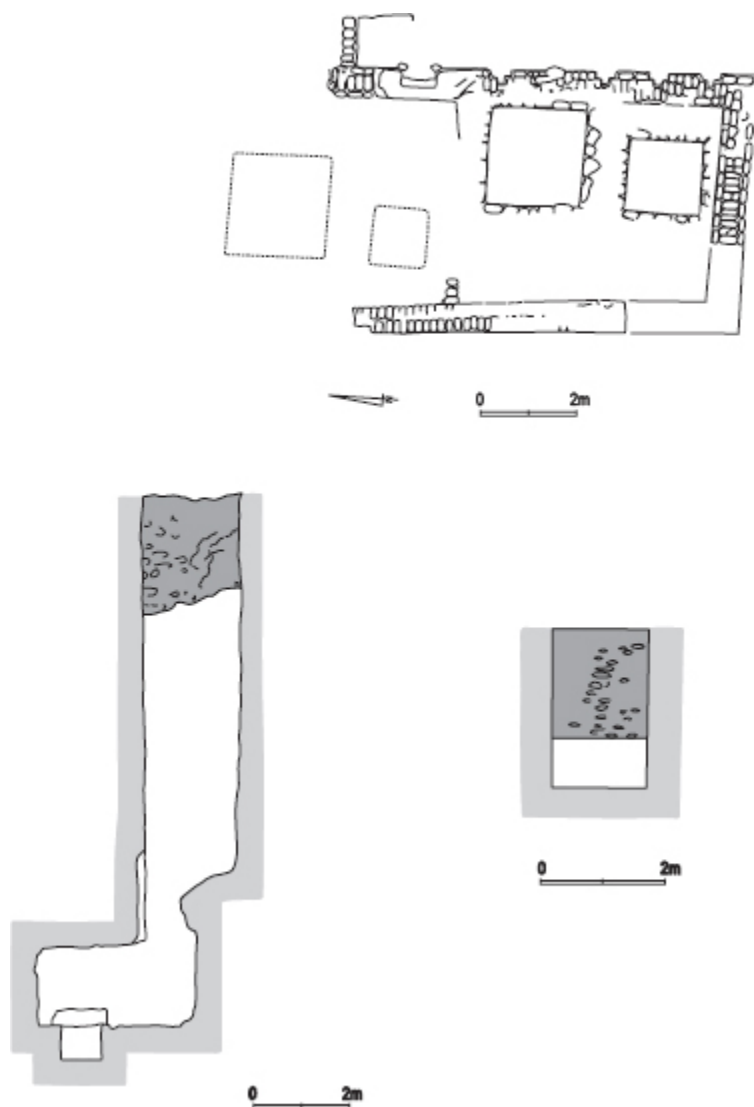


Fig. 5: Plan of the mastaba of Pehi (no. 3) at West Saqqara and section through funerary shafts 31 (on the left) and false shaft 34 (on the right)

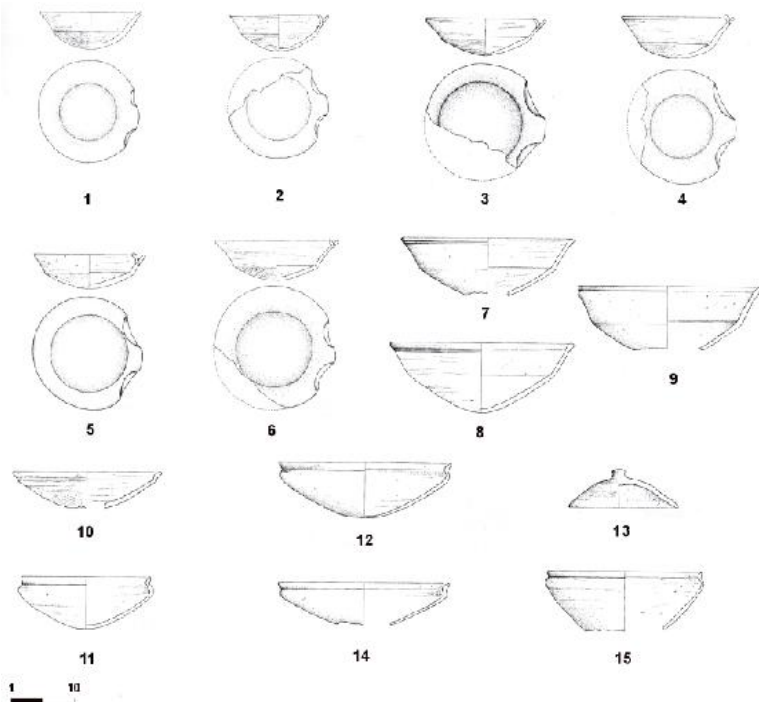


Fig. 6: Pottery found in shaft 34



Fig. 7: Deposit from false shaft 34 upon discovery

This ritual appears to be imbued with a number of different meanings. Firstly, the vessels that were broken were used in the funeral ceremony and thus belonged to the *sacrum*. Their use in the sphere of the *profanum*, at home for instance, was unthinkable. By breaking the vessels, the ancient Egyptians made sure that no profanation would occur.⁵⁰ The colour of the vessels, red, also appears to hold deep meaning. Red was associated with Seth, and personified the negative characteristics of this god; it also brought to mind the desert. Thus, breaking red vessels had the symbolic meaning of rendering harmless the enemies of the dead man.⁵¹ As a whole, it appears to be the last stage in the tripartite rites of passage – the ‘ritual of incorporation’ (*rites agrégation*) according to Arnold van Gennep's classic conception.⁵²

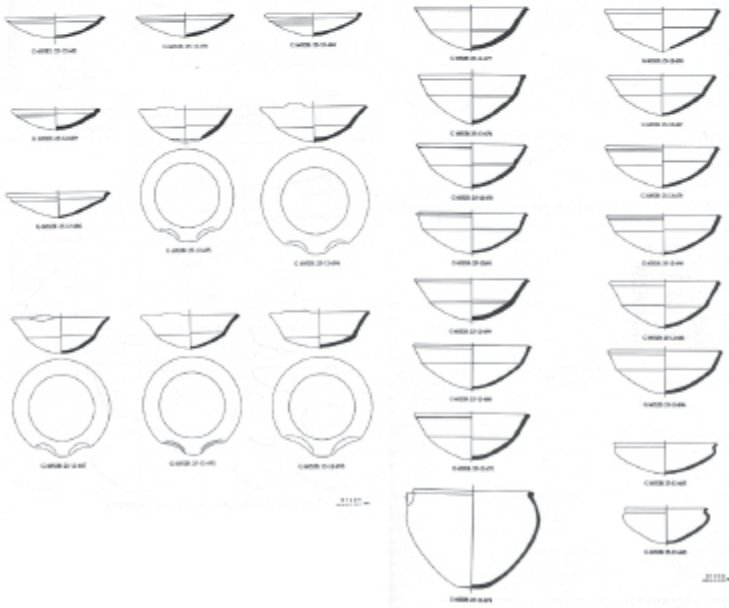
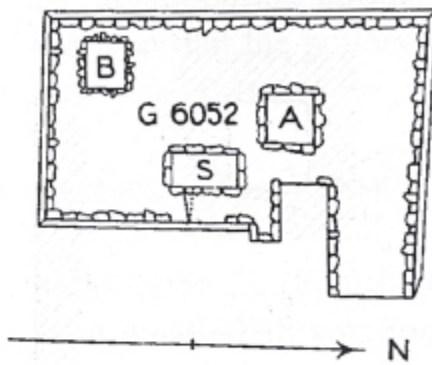


Fig. 8: Plan of mastaba G 6052 and reconstructed pottery found in false shaft B (Weeks, *Giza Mastabas 6*, pl. 2, figs 132–134)

As for the remaining finds from the shafts without chambers, they can be considered with some caution as the remains of a funeral banquet attended by the participants of the ceremony, as well as left after the preparation of the body for funeral at the *wabet*.⁵³ The nature of the remaining objects confirms this interpretation. Bones and organic remains are evidence of the food consumed at the tomb. Junker's observations seem particularly interesting. He linked the ritual of 'Breaking of the Red Vessels' with giving, or perhaps displaying, a chest with the offerings.⁵⁴ One should keep in mind

that a chest appears in the Ramesseum E papyrus, which mentions the bearer of chests of small vessels.⁵⁵ Despite there being no direct iconographic evidence, there is much to indicate that the chest actually contained produce consumed during the banquet. This would explain the presence of many of the elements of these deposits, especially the wooden boards, which were, as in the case of the deposit from our shaft 34, elements of the chest, as well as the shells, bones, lumps of charcoal and textiles. Another important element found in a few deposits consists of textiles, usually carelessly bundled or even ‘casually’ thrown into the shaft. It is possible that these were bandages used in preparing the body for burial. They, too, are soaked through with a brown resinous substance.

The conclusion seems obvious enough. The shafts without chambers were not unfinished burial shafts abandoned for whatever reason during the digging; they were planned from the start not as places of burial, but as a kind of ‘cache’.

The similarities are striking between the objects from the recesses and those from the ‘false’ shafts, especially in the case of the vessels. The vessel types found *in situ* in the recess of shaft 294 may be earlier than those from shaft 34 of Pehi's mastaba in Saqqara and shaft B of mastaba G 6052 in Giza, but they are identical. It is not likely to be a coincidence, especially if we take into account the position of each one of these shafts with regard to a sarcophagus (recesses and pits) or main burial shaft (false shafts).

Summary

To sum up, the Old Kingdom burial chambers contained three different kinds of caches: recesses, pits and ‘chests’. For years they have been believed to be receptacles for the entrails removed from the body during the embalming process and for canopic jars. The theory, however, has many weak points, being based, as it is, on untested assumptions. The scant remains found in these caches not only do not uphold the idea, but they actually support a different scenario. They also point directly to the so-called ‘false’ shafts, which were not unfinished but were intended as caches for all kinds of objects used during the burial ceremonies, especially if they had become soiled by contact with the dead body during its preparation for the funeral. It now seems very probable that all of the caches served this same purpose: they were Old Kingdom caches but for entirely different objects rather than the canopic jars.

Were these caches a local Memphite phenomenon? There is much to suggest this conclusion, but until more excavations are conducted, the question will have to remain open. Most of the data on recesses and pits come from Giza, which is an extraordinary burial ground; archaeological research there has been going on almost incessantly for a century, although it

has been limited largely to the fourth dynasty mastabas and Maidum. Other sites, like Saqqara, not to mention sites from Middle and Upper Egypt, are much more poorly represented in this respect.⁵⁶ Their historical topography is not as well known and there is still much unexplored territory within their boundaries.

The present article does not take up issues concerning the origins of the caches or their later development, but it was deemed important to identify their function based on the finds coming from these places, as well as to determine their role in the funeral ceremonies. It is purely a side effect that in doing so the author has demonstrated yet again how misconception, if repeated frequently enough, turns into binding theory – in Egyptology as much as in everyday life.

¹ F. Dunand and R. Lichtenberg, *Les momies et la mort en Egypt* (Paris 1998), 26.

² To avoid any misconceptions all relevant authors will be cited *in extenso*.

³ G. A. Reisner, *The Development of the Egyptian Tomb down to the Accession of Cheops* (Cambridge MA 1936), 215–216.

⁴ W. M. F. Petrie, *Medum* (London 1892), 18.

⁵ Petrie, *Meydum and Memphis III* (London 1909), 16, pl. XI,5.

⁶ Petrie, *Meydum and Memphis III*, 16.

⁷ Inventory number UC30896 (http://www.accessingvirtualegypt.ucl.ac.uk/detail/details/index_no_login.php?objectid=UC__30896__&accesscheck=%2Fdetail%2Fdetails%2Findex.php, accessed 21 February 2011). The exact provenance is not given, but the label seen in the photo reads ‘Mastaba 17’, making it highly likely that the wrappings come from mastaba 17 in Maidum.

⁸ Three test pits were excavated in 1987; regular excavations commenced in 1996. For a full list of references concerning the site and its exploration, see K. Myśliwiec et al., *The Tomb of Merefnebef* (Saqqara I; Warsaw 2004) up to 2004, M. Radomska et al., *The Upper Necropolis* (Saqqara III, Warsaw 2008) for 2005–2008, K. Myśliwiec et al., *The Tomb of Nyankhnefertum*, (Saqqara IV, Warsaw 2010) for 2009–2010.

⁹ T. I. Rzeuska, ‘A Wooden Chest from West Saqqara and Its Enigmatic Contents. Remarks on Mummification Process in the Old Kingdom’, *Etudes et Travaux* 23 (2009), 89–119.

¹⁰ W. M. F. Petrie, *Meydum and Memphis III*, 21.

¹¹ G. A. Reisner, *A History of the Giza Necropolis I* (Cambridge MA 1942), 160. He also distinguished a fourth type, the canopic chest of queen Hetepheres I, but failed to include it in the general statistics.

¹² Reisner, *Development*, 220–221.

¹³ Reisner, *Giza Necropolis I*, 155–156.

¹⁴ G. A. Reisner and W. S. Smith, *A History of the Giza Necropolis II*

(Cambridge MA 1955), 21–22.

¹⁵ Reisner and Smith, *Giza Necropolis* II, 50; the remark concerns shaft A of mastaba G 1457.

¹⁶ H. Junker, *Gîza I* (Wien und Leipzig 1929), 52.

¹⁷ A. Lucas, 'The Use of Natron in Mummification', *JEA* 18 (1932), 127. Lucas also analysed the royal Canopic chest from Lisht which, like that of queen Hetepheres, was filled with a water solution, but which contained no traces of human organs.

¹⁸ G. A. Reisner, 'The Empty Sarcophagus of the Mother of Cheops', *BMFA* 26 (1928), 81.

¹⁹ M. Rogouline, 'Evolution des receptacles à canopes', *BIFAO* 63 (1965), 243.

²⁰ T. Pommerening, 'Mumien, Mumifizierungstechnik und Totenkult im Alten Ägypten – eine chronologische Übersicht', in A. Wiczorek, M. Tellenbach, and W. Rosendahl (eds), *Mumien: Der Traum vom ewigen Leben* (Mannheim and Mainz 2007), 73–74.

²¹ Junker, *Gîza I*, 50–54.

²² Junker, *Gîza I*, 51.

²³ Junker, *Gîza I*, 52.

²⁴ In other words, recesses and pits.

²⁵ H. Junker, *Gîza XI* (Wien 1953), 113.

²⁶ Junker, *Gîza I*, 52.

²⁷ Junker, *Gîza I*, 53.

²⁸ A. R. David, 'Mummification', in P. T. Nicholson and I. Shaw (eds), *Ancient Egyptian Materials and Technology* (Cambridge 2000), 372–373.

²⁹ E. Martin-Pardey, *Eingeweidegefäße* (CAA, Pelizaeus-Museum Hildesheim, Lieferung 5; Mainz am Rhein 1980); 69–74, nos 2433 and 2434, 83–85, no. 2635, 141–146, nos 3250 and 3251.

³⁰ S. Hassan, *Excavations at Gîza VII. Season 1935–1936, The Mastabas of the Seventh Season and Their Description* (Cairo 1953), 9, pls X–XI.

³¹ H. Junker, *Gîza III* (Wien und Leipzig 1938), 200.

³² S. Hassan, *Excavations at Gîza IX. Season 1936–37–1938, The Mastabas of the Eighth Season and Their Description* (Cairo 1960), 58.

³³ W. Grajetzki, *Burial Customs in Ancient Egypt. Life in Death for Rich and Poor* (London 2003), 19.

³⁴ Reisner classified the shafts without burial chamber as his type 7x cf. Reisner, *Giza Necropolis I*, 98, 139 ff.

³⁵ H. Junker expressed his opinion on the subject of false shafts, pointing out that shafts of insignificant depth tend to appear in the south-eastern part of mastabas, cf. Junker, *Gîza III*, 217–218.

³⁶ Petrie, *Meydum and Memphis III*, 24, pl. XIV–XV.

³⁷ S. Hassan, *Gîza II*, 144–145, fig. 171 and 174.

- ³⁸ For the discussion, see T. Rzeuska, 'Funerary Customs on the Old Kingdom Necropolis in West Saqqara', in M. Bárta, F. Coppens and J. Krejčí (eds), *Abusir and Saqqara in the year 2005, Proceedings of the Conference Held in Prague June 27–July 5, 2005* (Prague 2006), 371–376.
- ³⁹ T. Rzeuska, *Late Old Kingdom Pottery. Funerary Pottery and Burial Customs* (Saqqara II; Warsaw 2006), 492–511.
- ⁴⁰ J. E. Quibell, *Excavations at Saqqara (1905–1906)* (Cairo 1907), pl. III. The pottery depot came from shaft 213, which was most probably secondarily constructed within a third dynasty stone mastaba.
- ⁴¹ Petrie, *Medûm*, 18, pl. XXX.
- ⁴² A. M. Roth, *A Cemetery of Palace Attendants, Including G 2084–2099, 2230–2231 and 2240* (Giza Mastabas 6; Boston 1995), 155–159, figs 86 and 88; Hassan, *Giza I*, 46–47, fig. 48; K. R. Weeks, *Mastabas of Cemetery G 6000, including G 6010 (Neferbauphtah); G 6020 (Iymery); G 6030 (Ity); G 6040 (Shepseskafankh)* (Giza Mastabas 5; Boston 1994), 95–98, 132–134.
- ⁴³ Weeks, *Giza Mastabas 5*, 95.
- ⁴⁴ A representation from the tomb of Mereruka, occasionally cited as the only scene from the Old Kingdom to represent the 'Ritual of Breaking of the Red Vessels' (P. Duell, *The Mastaba of Mereruka*, vols I–II (OIP 39; Chicago 1938), pl. 67) is in reality so damaged that it is difficult to interpret it as such, cf L. Borchardt, 'Bilder des "Zerbrechens der Krüge"', *ZÄS* 64 (1929), 16, note 2.
- ⁴⁵ Duell, *Mereruka*, pl. 67; A. M. Blackman, *The Rock Tombs of Meir IV* (ASE 25; London 1924), 50, pl. 18.1; W. M. F. Petrie, *Deshasheh* (EEF 15; London 1892), pl. 29; C. M. Firth, B. Gunn, *Teti Pyramid Cemeteries* (Le Caire 1926), 95.
- ⁴⁶ W. Barta, *Die altägyptische Opferliste von der Frühzeit bis zur griechisch-römischen Epoche* (MÄS 3; Berlin 1963), 72, 75, 87; J. van Dijk, 'Zerbrechen der roten Töpfe', in *LÄ VI*, cols 1389–1396; J. Assmann, 'Spruch 23 der Pyramidentexte und die Ächtung der Feinde Pharaos', in C. Berger, G. Clerc and N. Grimal (eds), *Hommages à Jean Leclant I* (BdE 106/1–4; Le Caire 1994), 50–55.
- ⁴⁷ A. Gardiner, 'A Unique Funerary Liturgy', *JEA* 41 (1955), 16; W. Helck, 'Papyrus Ramesseum E', *SAK* 9 (1981), 155.
- ⁴⁸ Reisner and Smith, *Giza Necropolis II*, group A, type LI, 'Bag shaped pots (all fine red brown ware)', 64, fig. 59–60, pl. 46 e, I/I–3.
- ⁴⁹ van Dijk, in *LÄ VI*, col. 1391. Depictions of the ritual of 'Breaking Red Vessels' from New Kingdom times show long jars that in no way recall the shape of the small vessels called *dšr.t*, cf Borchardt, *ZÄS* 64 (1929), *passim*.
- ⁵⁰ Taboos concerning the necropolis are common to most religions, including the monotheistic ones. There are strong beliefs current in many societies that nothing in any way connected with the cemetery should ever

be brought home, e.g. flowers or candles and so on.

⁵¹ R. K. Ritner, *The Mechanics of Ancient Egyptian Magical Practice* (SAOC 54; Chicago 1993), 148–149; van Dijk, in *LÄ* VI, cols. 1392–194.

⁵² A. van Gennepe, *Les rites de passages* (Paris 1981), *passim*.

⁵³ Blackman, *Meir* IV, p. 51; Ritner, *Mechanics*, 146.

⁵⁴ Especially clear in the tomb of Mereruka, cf Junker, *Gîza* III, 109.

⁵⁵ Helck, *SAK* 9 (1981), 155, col. 114.

⁵⁶ P. Jánosi, *Giza in der 4. Dynastie: Die Baugeschichte und Belegung einer Nekropole des Alten Reiches: I Die Mastabas der Kernfriedhöfe und die Felsgräber* (Wien 2005), 31.

Fixed rules or personal choice? On the composition and arrangement of daily life scenes in Old Kingdom elite tombs

Nico Staring

The tombs built for the elite during Egypt's so-called pyramid age exhibit a wide variety of decorative programmes within their accessible parts of their superstructures.¹ These so-called mastaba tombs, which in fact incorporate various tomb types,² were commissioned by members of the elite section of the strictly hierarchically Old Kingdom society. The aim of the present paper is to contextualise the elite tomb's decoration within its architectural setting, thereby analysing the diachronic development and local variations through the representational content of a selected number of iconographic themes. This study is, however, not an attempt to analyse the meaning, or changing meaning,³ of the tomb's decoration. Rather than studying isolated, individual daily life scenes, it is their coherency, together with a consideration of other architectural elements, which is the focus of the present study.⁴ Emphasis is laid on the arrangement of iconographic themes within the context of the tomb's superstructure. The key figure in this analysis is the person of the tomb owner and his responsibility as composer of the decoration in his own funerary monument. Whether the composition and arrangement of the iconographic programmes followed more or less fixed rules (or rather conventions), or whether these were susceptible to a certain degree of personal choice (preference) will be the subject of the discussion below.

Fixed rules versus personal choice: theory and practice

Let us first consider the tomb owner's motive and (theoretical) capacity to distinguish his or her tomb from that of any other individual from the same hierarchical group, in our case the elite segment of Old Kingdom society.⁵ Bolshakov already noticed the heterogeneous character of elite tombs, when stating that 'Every Egyptian tomb is unique as concerns its architecture and decoration, and unique is its decoration as regards the selection of represented topics, their treatment and their arrangement.'⁶ To Van Walsem, this 'astounding variation' raised the question of individual 'pluriformity' behind and in relation to the collective 'uniformity' of the overall collection of tombs in the various elite cemeteries of the Memphite region.⁷ Here, according to Van Walsem, we touch upon a sharply contrasting pair of concepts as characteristics of ancient Egyptian culture, that is, the individual versus the collective, or society.⁸ The elite tomb is the result of various steps of realisation.⁹ Decoration represents only one such step. The others concern the location and their construction, externally as well as internally. The rationale behind these 'steps of realisation' is not always made explicit by the data at our disposal. We are confronted only with the end result, or at least with what is left of it. Thus, we are trying to reconstruct ancient thought processes through highly incomplete data, unaware even of the degree to which these data are incomplete. In any case, the potential elaborateness of the decoration of an individual's tomb chapel was constrained quite simply by the overall available wall surface. This applies principally to the interior walls.¹⁰ Thus, the larger the chapel in terms of rooms and consequently wall surface, the more possibilities existed for variation in relation to the execution of the iconographic programme. With the link between tomb size and the potential space available for the application of decoration, we necessarily and inevitably arrive at the discussion of the apparent direct relationship between tomb size and rank. Concurrently, this discussion relates to the issue of status and wealth of the tomb owner in connection to the degree of appropriation of wealth for the construction of an individual's tomb.¹¹ What parameters determined the size of a tomb? According to Strudwick, the appropriation of a person's wealth for the construction of a tomb was a personal choice.¹² Direct textual evidence appears to confirm the hypothesis that the tomb owner himself, depending on his own wealth, was responsible for the execution of his tomb, thus delimiting the potential size of his funerary chapel.¹³ That an official was nevertheless restricted in his freedom to choose the dimensions of his tomb (that is, delimiting its maximum size) is proposed by Alexanian, who argues that the size of a tomb was regulated officially, with the king eventually assuming the responsibility of drafting a royal decree.¹⁴ Similarly, Chauvet argues that the absence of '[...] some form of central royal institution overseeing the organization of the Memphite necropolis' is something hard to imagine, because of the '[...] nature and the central role of the administration in the Old Kingdom society [...]'.¹⁵ Nevertheless, she concludes that, based on inscriptional evidence

hinting at the royal involvement in private tomb building, the central administration, not necessarily the king in person, was rarely involved directly in private tomb building.¹⁶

Tomb size, however, is not the only indicator of the social status of a tomb owner, nor the only indicator of the costs of its construction. Traditionally, several key indicators for the tomb owner's status have been accepted, including the position of the tomb in the cemetery, the total area the tomb occupied, its architectural layout, decoration, equipment, and the burial ceremony.¹⁷ Setting aside the question of a direct correlation between these indicators and social status, our understanding of several of these indicators themselves is rather poor.¹⁸ The social status of an elite member of Old Kingdom society might nevertheless have implications towards certain expectancies regarding tomb size and/or execution. This is well illustrated in the autobiography of Hesi, who was vizier during the reign of Teti and who constructed his tomb near the pyramid of that king in Saqqara.¹⁹ The tomb he 'ordered' consisted of only a single room, cruciform chapel. This is obviously much smaller than one might expect from a person of his stature and indeed exceptionally modest when compared with his near-contemporaries Kagemni and Mereruka. Hesi seems to have been aware of this discrepancy between tomb size and social position when he states that he 'caused that a single chamber be made' in his tomb, although he was 'capable of constructing it in multiple chambers'.²⁰ For whatever reason this passage was included by Hesi in his tomb chapel, and whether he indeed did have the choice to have a larger tomb constructed, either financially or in accordance with his rank and social status, it nevertheless demonstrates a theoretical self-determination.

Since the tomb owner started building the tomb during his or her lifetime, the tomb, with its architecture, equipment, decoration and texts, according to Alexanian, presented an ideal place for its owner's self-representation.²¹ The tomb functions as a medium to display the status of the owner during his lifetime. After death, it commemorates the status achieved by the deceased tomb owner. The tomb had thus evolved from its primary *raison d'être* of simply marking a burial²² into an integrated monument, the goal of which was both functional and expressive,²³ emphasizing its communicative character. Van Walsem even considers the tomb and its decoration programme as a kind of 'portraiture' of its owner, expressing his individuality.²⁴ The tomb owner thus potentially appears to have had plenty of possibilities to personalise his tomb. The question is, as Van Walsem argues, whether the steps in the realisation of a tomb actually do reflect the choices made by the tomb owner, or whether these, to speak in Baines' words, are led by 'rules of decorum'.²⁵ The wide variety of tomb construction, primarily internal, and the unique arrangement and composition of the iconographic programmes displayed by the available tombs, seem to imply that the opportunities for personal choice regarding the

composition of the decorative programme was infinite. Such a view contrasts with the observation that only a restricted number of themes (of daily life scenes) can be identified. This seems to imply that personal choice was rather restricted, which in turn suggests the existence of certain *rules* to which the composer (either the tomb owner or the artist executing the design) had to conform. Baines states that the essential form of display for the early elite was architecture and only much later was this supplemented with representation or writing,²⁶ that is, with an iconographic programme. The subject matter of the private and royal sphere differ considerably, with the latter stressing a degree of exclusivity.²⁷ No non-royal tomb, for example, ever included the image of the king. Even though there appears to have been a limitless number of possibilities, the content and number of subjects was restricted and regulated. The themes regularly included in the iconographic programmes of these tombs, some of which seem to have been considered indispensable, do not seem to offer many possibilities of ‘personalising’ one’s tomb. Conversely, to be in the possession of something unique differentiates a tomb from any of the others. It is likely that the personal choice of the tomb owner is present in these ‘minor’ themes, or in the minor aspects of each such theme. Adhering to the subdivision employed by the Leiden Mastaba Project, the complete inventory of decorative programmes consists of seventeen main themes and 172 sub-themes.²⁸ Every individual tomb only displays a small selection of this larger potential. Some themes were present right from the start of the fourth dynasty, others were introduced later, some ceased to be included while others reappeared again at later stages.²⁹ Allowing for 425 years of Old Kingdom elite tomb building,³⁰ which has resulted in 337 identified tombs,³¹ the number of themes and sub-themes appears to be rather small. Only one theme is certainly ubiquitous: the tomb owner seated behind an offering table. This scene was considered necessary for his well-being in the afterlife, and thus appears to have been the only certain prerequisite for a sound decorative programme. It seems that any of the other themes could be included or excluded according to the will of whoever was responsible for the tomb’s execution.

Table 1: Overview of studied data

	Desert hunt	Offering procession	Care for desert cattle	Slaughtering	Total
Tombs	15	107	5	19	118
Scenes	18	140	5	24	187
Registers	46	231	10	24	311
Giza	3	55	-	5	63
Abusir	1	1	-	-	2
Saqqara	8	42	5	9	64
Dahshur		2	-	-	2
Maidum	3	1	-	2	6
Dynasty 4	3	16	-	2	21
Dynasty 5	6	53	2	8	69
Dynasty 5/6	1	4	-	-	5
Dynasty 6	5	28	3	6	42

Totals of course include some tombs which contain more than one of these scene types

Data and research methodology

Selected (sub-)themes

The vast quantity of available data (recorded iconographic scenes) renders an all-encompassing study impossible. For the purpose of the present study, a sample of four sub-themes has been extracted from this larger collection. The selection is based on the depiction of desert cattle as their main subject: desert hunt, offering procession, slaughtering and care for desert cattle (Table 1). Through a detailed analysis of these scenes, the extent to which iconographic themes in general were liable to fixed rules, regarding their composition and arrangement, will be assessed. Although the selection represents only 2.3% of the total available sub-themes (172) attested in Memphite Old Kingdom elite tombs,³² the relatively modest size of the dataset does not detract from its representative nature. The data derive from a fixed dataset, which encompasses a substantial part of the published elite tombs, a wide time span covering the total length of the Old Kingdom, and a distribution over all the cemeteries of the Memphite region.³³

Dataset:³⁴ quantitative versus qualitative

For the present study, each single scene is analysed quantitatively on two levels.³⁵ The first level of analysis looks at the context of the scene or theme within the larger iconographic programme. This larger programme is likewise considered within the spatial context of the tomb's structure. In

addition to this contextualising approach, the representational content of each scene is analysed. The meaning or message that is integrated in these representations – the qualitative aspects – will not be examined.³⁶ Only the objectively observable and quantitatively researchable content will be taken into consideration.

External aspects

The external aspects refer to the arrangement of scenes in the total iconographic programme of a tomb, or collection of tombs, and an understanding of a scene's location within the architectural unity of the tomb's superstructure. These define the place of a certain scene or theme within the tomb's architectural context. As noted above, we do not yet clearly understand the inter-dependability of all factors that influence the eventual establishment, composition and design of the iconographic programme. It should also be stressed that the aspects selected for the present research do not necessarily include all the factors that were influential on their inclusion/exclusion and distribution within the tomb chapel. With these limitations in mind, several external aspects have been identified and analysed. These include the relative tomb size, distribution of scenes over the tomb's architectural features, their position on walls (including relative height and physical orientation), and the mutual coherence of scenes.³⁷ Each of these aspects has been surveyed and analysed for every single scene. The outcome eventually describes the sub-theme's disposition within the architectural unity of the tomb chapel. An outcome that inclines towards consistency, either with regard to orientation, connection with certain space unities, architectural elements and so on, might present an indication on the existence of certain 'rules'. On the other hand, randomness repudiates any correlation and therefore might indicate a rather freer, individual interpretation by the tomb owner regarding the inclusion or exclusion of themes, composition and disposition of the iconographic programme.

Relative tomb size

For the purpose of the present study, chapels encountered in the selection of tombs are divided into four main types.³⁸ Classification is according to the relative size measured through the number of rooms represented: single room; cruciform,³⁹ single room; L-shaped,⁴⁰ double roomed,⁴¹ and multiple roomed.⁴² The purpose of this division is twofold: to pursue an analysis of the relation between tomb size and incidence of a certain scene, and to analyse the scene's exact position within the architectural context through its arrangement over different architectural elements.⁴³

Architectural features

Following the division of tombs according to their relative size, measured by means of the number of internal rooms, the next step is to establish the possible locations for the application of decoration in order to examine the complex correspondence between architectural elements and tomb decoration. A further refinement of these features, such as ascribing functions to the rooms, is possible, but has not been pursued here.⁴⁴ The present research mainly differentiates between cult chapel (the room where the false door is located) and other rooms. Since the cult chapel is the focus for offerings made for the deceased tomb owner, and is where the false door served as a means to communicate directly to the burial chamber,⁴⁵ the room served as the structure's most important spatial unit. The dispensability of all rooms except for the cult chapel has already been demonstrated in the example of Hesi. Thus, one could presume that this restricted space was reserved for a core group of scenes, displaying the most important iconographic themes. The architectural elements selected for this research furthermore include the facade, entrance portico, long corridor, pillared court and doorway(s).

Internal aspects

The internal aspects relate to the dynamics within the scene's representation⁴⁶ (Fig. 1). The aim of the analysis is to arrive at an indication as to what extent the compositional execution of iconographic themes was susceptible to fixed rules. The analysis focuses on what is represented, how it is represented, how many times and in what combinations. In order to answer these questions objectively, the available data are analysed quantitatively.

The representational content of scenes appears to have been well defined during the period under consideration. Scenes of daily life were not attestations of unique events. These could rather be characterised as displaying generic actions.⁴⁷ According to Müller, generic actions could be ordered into thematic cycles.⁴⁸ The composition of thematic cycles is awkward, since these have hardly been attested in their entirety.⁴⁹ Furthermore, they do not appear in a canonical sequence: their distribution is rather free. The fact that we are dealing with generic representations, implying restricted possibilities for variation, contrasts sharply with the actual data at our disposal. Indeed no two scenes are exactly identical, suggesting room for (personal) variation. Were there, nevertheless, basic requirements and/or possible 'obligatory' or indispensable features to which a scene of a certain theme had to conform? And to what extent could the artist or tomb owner personalise the theme, distinguish his or her representations from other examples without losing the (ascribed) value of

the generic theme? Despite belonging to the same sub-theme, scenes can differ widely in their representational content. One is confronted with the choices made by the artist when executing a scene. This area of research is thus concerned with the (in)consistency in the depiction of scenes, analysed systematically in their representational content. The outcome might be indicative of the degree of standardisation regarding the representations of certain activities or themes. Furthermore, one could question whether there is a development (enlargement vs reduction) observable through time. These questions all relate to the awareness of the complexity of these internal features. A study of their (in)(ter)dependency and (in) consistency of inclusion/exclusion is being pursued.

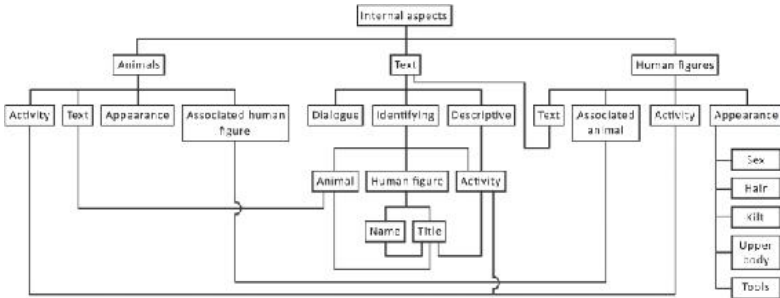


Fig. 1: Relational structure of the internal aspects analysed within a scene's representation

Contextualising tomb decoration: the architectural setting

The study of the relationship between iconographic programme and tomb architecture reveals preferences for the placement of themes within this architectural unity.⁵⁰ This preference is significant considering the fact that scenes were distributed over several tomb types, all differing considerably with regard to their architectural form, complexity and size. This result is furthermore endorsed by the long time span and geographical distribution of the studied data. Some scenes, as has been observed for the slaughtering of desert cattle, were only included in a confined area of the chapel (Table 2). Thus if a tomb owner decided to include the slaughtering of desert animals into his tomb's iconographic programme, these apparently should be depicted in the cult chapel. This confined area implies a location nearest the false door and offering table. It seems rather logical that this specific example fits best in the context of the cult chapel, since this is the place where offerings were made and priestly services were carried out. With the design of the decorative programme, the tomb owner had to reckon with the available wall space. Since this is restricted in cult chapels and since there is (normally)

only one such chapel containing a false door, a decision should be made on which theme to include and, as a result, also which theme to exclude. With only 7.41% of all recorded tombs displaying the subject of the slaughtering of desert cattle,⁵¹ it indicates that it was not highly prioritised. Nevertheless, it did occur already in some of the smallest tombs (those designated single room chapels) and remained to be included in the larger versions. It is striking that when the theme was not included in the cult chapel of the larger complexes, it would also not be included outside the cult chapel, even though wall surface would have been largely available. Both this preference and the scene's exclusiveness indicate that the theme could only be represented within a limited architectural setting, in this case only in a single specific spatial unit.

Table 2: Relation tomb type : architectural elements for ‘slaughtering of desert cattle

	Circular	Escaped	Double room	Multi room	Other	Total
Cult chapel	25.7%	13.3%	13.3%	40%	6.7%	100%

Table 3: Distribution of all themes over architectural elements

	Desert hunt	Offering procession	Care for desert cattle	Slaughtering desert cattle
Facade	—	—	—	—
Entrance portico	—	2.02%	20%	—
Doorway	12.5%	16.89%	—	—
Long corridor	—	2.70%	—	—
Columned court	—	2.70%	40%	—
Cult chapel	43.75%	57.43%	—	91.67%
Other rooms	43.75%	17.56%	40%	8.33%
Unknown	—	0.70%	—	—
Total	100%	100%	100%	100%

Based on four themes only (Table 3) it is difficult to decide whether the restricted choice of location of these themes is due to certain connotations of the theme relating it exclusively to this spatial unit (as in the case of slaughtering of desert cattle restricted to the cult chapel). It is even more difficult to determine whether this close correlation is attributable to the existence of certain ‘rules’. It does seem, however, that when one theme was included in the decorative programme, other themes were necessarily excluded. This is certainly true for the slaughtering of desert cattle; occurrences of this theme outside the cult chapel are almost nil.⁵² When other themes were chosen to decorate the cult chapel, the theme ‘slaughtering of desert cattle’ initially had to be excluded, since there was simply no more available wall space. This necessarily resulted in its exclusion from the complete tomb, perhaps because the theme would lose its cultic or symbolic meaning when applied elsewhere. The tomb owner's personal choice is thus evidenced in the selection of themes included into the overall tomb programme. This choice is less evident in the location he allocated for that particular theme. Some themes seem to have had (a) specific location(s) where they could be applied. The selection of one

particular theme, therefore, could result in the necessary exclusion of another, not only from that locality, but indeed from the complete iconographic programme. There are however also themes that were applicable over a multitude of locations, such as ‘offering procession of desert cattle’ (Table 3). Such themes appear not to have been confined to one particular spatial unit, although Table 3 indicates the existence of preferences. It should be noted that the themes under consideration already present an indication of personal choice, since only a limited number of tomb owners included these themes in their iconographic programmes in the first place. Second, no two tombs exhibit the same architectural form or construction, which also suggests there were no allusions to a strict, well defined, and eventually predetermined concoction and distribution of this programme.

The same conclusions are arrived at in relation to the distribution of themes over walls and their orientation. The slaughtering of desert cattle, for example, in 92% of all cases had been placed on the lower part of a wall.⁵³ Such a high number clearly indicates a strong preference for its use at this location. When addressing the same theme's orientation, there is a much less obvious preference. 33% of the scenes are located on the south wall, while 29% of scenes could be found on an east wall, 13% on a west wall and 21% have a northern orientation.⁵⁴ This again substantiates the existence of preferences, but certainly refutes the existence of peremptory rules.

Table 4: Occupations distinguished of human figures attested in ‘slaughtering of desert cattle’ scenes

	Madum	Giza	Saqqara	Total
Bringing animal to slaughtering area	-	1	6	7
Sharpening knife	-	-	9	9
Bringing vessel / bowl	-	1	5	6
Tying animal's legs	-	-	3	3
Grasping animal's leg	-	6	18	24
Cutting off (fore)leg	-	6	26	32
Decapitating animal	3	-	-	3
Removing animal's heart	-	-	8	8
Carrying away choice cuts	1	4	14	19
Supervising activities	-	1	1	2
Total	4	20	90	114

Variation versus uniformity: an analysis of internal aspects

Since Giza and Saqqara contributed the majority of data to the present research, the forthcoming analysis mainly concentrates on both these two cemetery sites. It is also between these sites that prolific (diachronic)

differences emerge regarding the level of detail in the execution of the scenes. The geographical aspect will be touched upon first. Several results from the analysis of the sub-theme ‘slaughtering of desert cattle’ will illustrate the results of the research.

Animal species

The 24 slaughtering scenes studied yielded a total number of 47 depicted animals. These could be ascribed to five different species on the basis of visual examination: 27 oryx (*Oryx gazella dammah*), two addax (*Addax nasomaculatus*), five dorcas gazelle (*Gazella dorcas dorcas*), one hartebeest (*Alcelaphus buselaphus buselaphus*), and nine Nubian ibex (*Capra ibex nubiana*).⁵⁵ The majority of scenes (17) are of only one animal. Scenes with two animals are encountered in seven tombs, while only three scenes are composed of more than two animals (viz. four, five, and six animals).⁵⁶ When considering the geographical distribution of species, the difference between Giza and Saqqara is striking (Fig. 2). Scenes from Giza include only oryx, while five different species are observed in scenes from Saqqara. Such a contrast of variation versus uniformity appears not to be coincidental.

Representation of human figures

The slaughtering scenes studied accounted for 110 representations of human figures.⁵⁷ The majority of scenes depict three men, with a maximum number of sixteen human figures observed in the tomb of Ti.⁵⁸ Human figures are represented while participating in various stages of the slaughtering process. Eleven such occupations are distinguished. In Table 4 their geographical distribution is illustrated. Again, the dissimilarity between Giza and Saqqara is noteworthy. Human figures in scenes from Saqqara present ten different occupations. Those from Giza yielded only six. Although modestly represented, Maidum deserves special attention. The butchers depicted in the tombs of Nefermaat⁵⁹ and Atet⁶⁰ are unique in beheading their animals.⁶¹ The ‘model’ composition involving a butcher cutting off the foreleg of a recumbent animal is first observed in the tomb of Kaemsekhem in Giza.⁶² This presents a fundamental change in the development of the iconographic theme ‘slaughtering of desert cattle’.

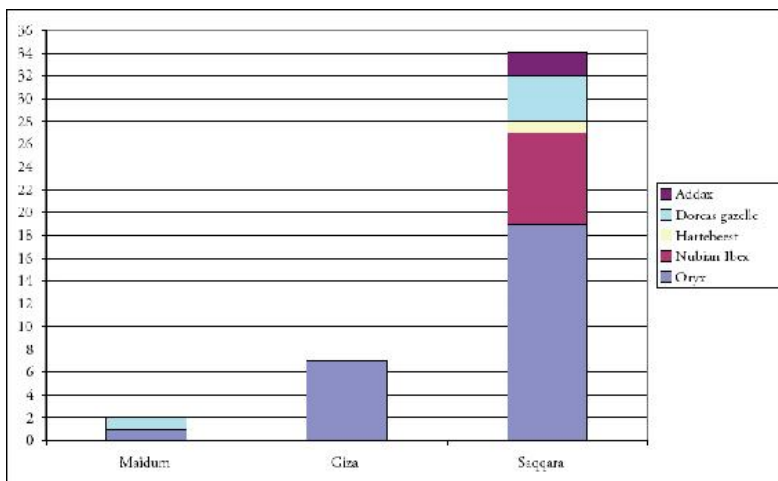


Fig. 2: Geographical distribution of animal species in 'slaughtering of desert cattle' scenes

Textual additions: dialogues

Let us finally consider the textual additions to the scenes. 52% of slaughtering scenes have text. Scenes from Saqqara (82%) appear to have included text more frequently than those derived from Giza (24%).⁶³ Three text types are discerned, classified as identifying, descriptive, and dialogue. Identifying text phrases are typically associated with animals (identifying the species) and human figures (including names and titles). Descriptive or explanatory texts elucidate the activity represented. The third textual category is generally considered as resembling the 'language of the people' or colloquial,⁶⁴ as opposed to the more formal language employed in, for example, official documents and religious contexts. The human figures encountered in desert animal-related scenes often hold priestly titles, the majority of which involve the most common priestly office of *ka* servant, implying those responsible for the daily services for the cult of the deceased tomb owner.⁶⁵

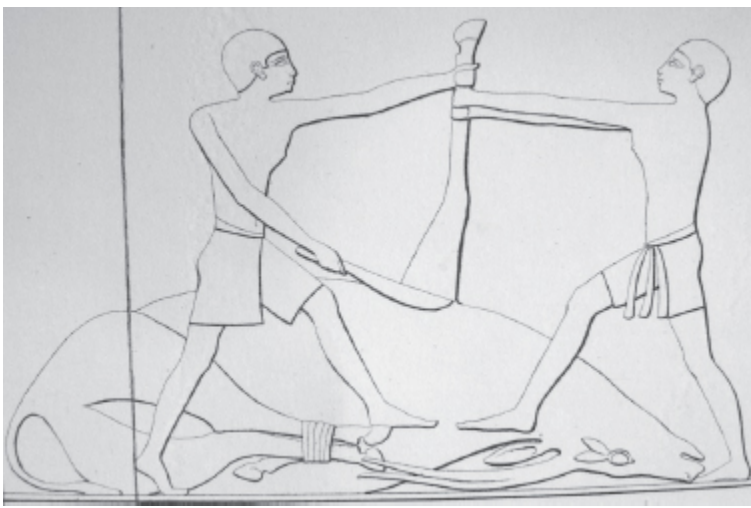


Fig. 3: Slaughtering of an Oryx; scene in the tomb of Ka-em-sekhem (fourth dynasty; Giza). After LD II, pl. 32 [bottom right]



Fig. 4: Slaughtering of an Oryx and a Nubian ibex. Scene in the tomb of Ptahhetep II : Tefi (fifth dynasty; Saqqara). After Quibell, Ramesseum, pl. XXXVI [lower part]

Within the framework of the present research, 33 colloquial phrases have been identified. The restricted application of these phrases is emphasised by the fact that only 5% of all represented human figures are provided with such utterances (33 out of 651 represented human figures). Its application is confined almost exclusively to Saqqara. In 32 examples in this study, the majority is attested at that site. In Giza only one such example is known.⁶⁶ The addition of text characterises scenes from Saqqara as dynamic, while scenes from Giza are more static. Saqqara scenes not only exhibit a higher proportion of textual additions, but the choice of text type (dialogues) creates a more lively result.⁶⁷ These additions complete scenes and indeed are a reflection of the originality of an individual's tomb, enhancing a tomb's unique appearance. It thus is an important contrivance to personalise the iconographic programme of an otherwise well known, and often repeated, set of themes.

The attested difference in the complexity of execution of scenes observed when comparing Giza and Saqqara is well illustrated by Fig. 3 and Fig. 4. Both slaughtering scenes are included in the decoration programme of the cult chapel. Fig. 3 depicts a scene from the L-shaped tomb chapel of Kaemsekhem in Giza, dated to the fourth dynasty, around the reign of Khafre. Fig. 4 depicts the same sub-theme in the multi-room chapel of Ptahhetep II from Saqqara, dated around the reign of Djedkare Izezi of the fifth dynasty. The scene from the chapel of Kaemsekhem depicts the abbreviated, most basic implementation of the theme: one animal (oryx) and two human figures: the butcher and his assistant. While the latter person grasps the animal's foreleg, the butcher cuts it off.⁶⁸ As such, the scene contains the most elementary features of which a slaughtering scene involving desert cattle should be composed. The scene in Fig. 4 was much more ornately executed. The scene not only displays the slaughtering of two different species (oryx and Nubian ibex), it also depicts an additional number of functions and variations as exemplified by the human figures. Apart from those figures participating actively in the scene, there is also one figure depicted standing passively, while inspecting the blood offered to him by the person to his left (*m33 snf pn*; 'see this blood'). The scene has also been provided with a considerable amount of text. Eight short phrases can be subdivided into three different types: identifying, descriptive and dialogue.

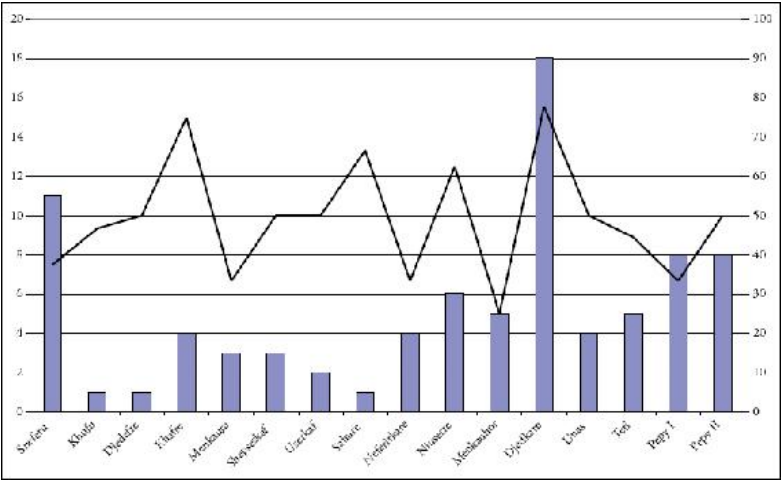


Fig. 5: Variety of animal species in 'desert animal offering procession' scenes: diachronic distribution. The line represents the percentage of tombs per reign that include this offering scene; the percentage is given on the right-hand axis

These two scenes illustrate the different choices made by those responsible for the execution of scenes. Each displays its own interpretation of this iconographic daily-life sub-theme. However highly individualistic (since no exact similar example (copy) exists), both scenes demonstrate the same basic

form. Every scene contains at least two human figures (a butcher and his assistant) engaged in the act of butchering a recumbent desert animal. At a guess it seems that this basic composition was judged sufficient for Kaemsekhem. It is however clear that the L-shaped single-room chapel offered limited wall surface, which delimits the degree to which a scene could be expanded. The more richly executed scene of Ptahhetep however also derives from a chapel consisting of one single chamber. Wall surface should therefore not simply be considered the deciding factor. The degree of complexity moreover is dependent on the wishes, and choices made by the tomb owner. These wishes and choices are not led by prescribed rules, but rather appear to be led by common principles. These common principles furthermore appear to be embedded in a site-specific tradition. Scenes from Saqqara generally, although not necessarily, incline towards variation, while those from Giza generally, but again not necessarily, remain rather austere and conservative. What has caused these two distinct traditions is difficult to ascertain. An analysis on the diachronic development of the elaboration of execution might provide us with an indication.

Diachronic development

A comparably balanced result is arrived at when analysing the development of scenes in the Memphite region diachronically. Roughly five demarcated developmental stages could be discerned in relation to the alternation of variation and conservatism. [Fig. 5](#) illustrates the attested variety of animal species depicted in the desert cattle offering procession scenes. The few scenes from Maidum display a surprisingly large number of different species. This variety is all the more striking when compared to the results from the remaining length of the fourth dynasty and the first half of the fifth. With some minor exceptions, the variety of scene content is initially low. The situation starts changing towards the end of the fifth dynasty, culminating around the time of Niuserre to Djedkare Izezi. For the remaining length of the Old Kingdom variation diminishes somewhat, although not returning to the situation attested before.

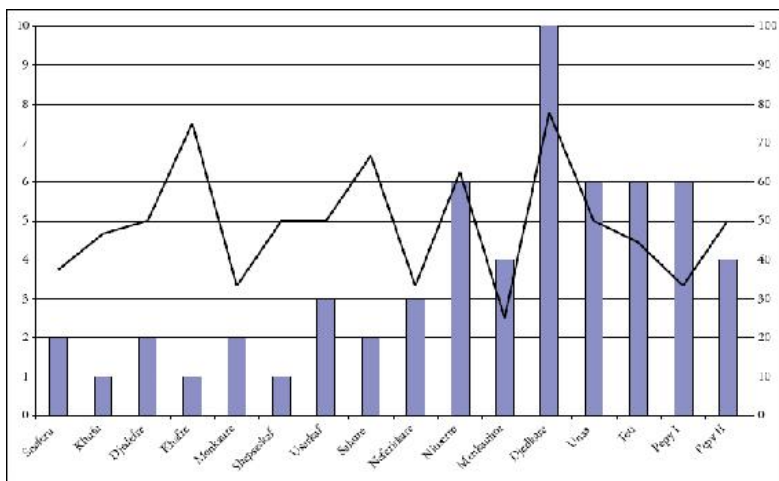


Fig. 6: Variety of occupations held by human figures in 'desert animal offering procession' scenes: diachronic distribution. The line represents the percentage of tombs per reign that include this offering scene; the percentage is given on the right-hand axis

A similar development is observed when analysing the variation of occupations exhibited by the human figures included in desert cattle offering procession scenes (Fig. 6). Again there is an obvious contrast between early and late Old Kingdom. The trend illustrated by these two graphs is recurrent throughout the research conducted.

The variety of aspects attested within the internal dynamics of scenes, such as different animal species, functions of the human figures, and so forth, proved to be relatively high at the beginning of the fourth dynasty. Tombs from Maidum represent the initial stage in the emergence of a tradition, already entrenched before the fourth dynasty of tomb decoration with an iconographic programme that evolved over the next few centuries of the Old Kingdom. Three chapels from the otherwise modest elite necropolis contained any of the four themes under consideration. The variety of aspects attested within the representational content is however surprisingly high. As we observed in Fig. 5, the variety of animal species in desert cattle offering procession scenes is only superseded in tombs dating towards the end of the Old Kingdom, around the reign of Djedkare Izezi. The reason for this deviating result might be due to the fact that these scenes present the initial stage of tomb decoration. It seems that the composition of scenes had yet to be defined and formalised.

With the royal move to Giza, private tomb construction began at this previously unused plateau.⁶⁹ The organisation of the mastaba fields into a grid-like pattern is without precedent.⁷⁰ This break with tradition might well have had consequences for the decoration of tomb chapels. The layout of these mastaba fields, governed by 'strict hierarchy' and 'uniform

geometry',⁷¹ finds its equal in the decoration of individual tombs. The elaboration of tomb scenes during the remaining length of the fourth dynasty, notably in Giza, is characterised by uniformity rather than by singularity. The relatively homogeneous nature of tomb construction at the site, furthermore characterised by small, single-room tomb chapels, might well have been a factor in the inclination towards less elaboration. The restricted wall surface placed limitations on the potential quantity of scenes to be included, and/or had a restraining effect on the extent of these scenes.

Around the time of the reign of Userkaf, who commissioned his pyramid at Saqqara, scenes began to display more variation, although on an unassuming scale. One might have expected that the royal abandonment of Giza would have provided an impulse towards innovation for those who persisted in constructing elite tombs at that site. However, their decoration remained conventional. Data from Saqqara reveal a deviant trend, although the inclination towards variation was still at a low level at this point. Subsequent kings left Saqqara to erect their funerary complexes at Abusir. Irrespective of this royal move, the majority of elite tombs featuring in the present dataset derive from near-by Saqqara and Giza. The increased physical distance between royal and private tombs does not seem to have had a profound impact on the dynamics within the tombs' decoration.

The situation changed significantly around the time of the reigns of Neferirkare to Niuserre⁷² continuing until that of Djedkare Izezi. No previous period of the Old Kingdom had witnessed such a level of variation. The move towards increasing self-representation through one's tomb and its decoration is evident. This trend is not confined to tombs that were built at a distance from the royal monuments. The tomb of Ptahshepses, almost literally built up against the pyramid of his father-in-law Niuserre, was not only the largest private tomb built during the entire Old Kingdom, but it also rivalled the royal funerary monuments of the period in terms of size and complexity. During that same period, tombs continued to be constructed at Giza. Increasing diversity was, however, confined remarkably primarily to Saqqara tombs. Unique features within the representations of scenes (internal aspects) are for example most often attested at Saqqara. With the return to the nucleus area of Saqqara by king Unas, the first king to include pyramid texts in his funerary monument, the trend subsides. Every king of the remainder of the Old Kingdom continued to construct his pyramid on the (larger) Saqqara plateau. Tombs of those belonging to the highest levels of society were once again built in close proximity to the monuments of their monarch, as had been observed during the reigns of Unas and Teti. Although the variation in the different representational aspects of scenes reverted somewhat to earlier levels, it did not return to the restricted level witnessed before the time of Niuserre.

Conclusion

Regarding the opposition of 'fixed rules' and 'personal choice', the analysis of the scene's internal and external aspects revealed a rather equivocal view. The selected themes indeed indicate a certain degree of homogeneity regarding their inclusion and disposition over the tomb chapel. None of the indicators, however, tend towards complete randomness nor restrictedness. This ambiguous result leaves one to conclude that the 'rules' applied to private tomb decoration offered a set of possibilities, subject to certain conventions, instead of one definite choice. Strict rules could not be observed. It remains the tomb owner who decided in the first place what theme(s) to include. It is especially the less common themes that offered an excellent tool to personalise one's tomb superstructure.

The analysis of the internal aspects of scenes has acknowledged that there is no such thing as strict standardisation. Scenes of similar sub-themes can differ considerably with regard to their representational content. In addition, the compositional development through time is not linear. Aspects within the internal dynamics of scenes, whether they are animals, human figures or text, are added continuously throughout the Old Kingdom. At the same time, other aspects are abandoned, some to re-appear again at later stages. The scenes do not unequivocally increase or decrease in elaborateness of execution. The dependence of scenes on the available wall surface is also not self-evident.

The study has revealed a clear dichotomy between Giza and Saqqara. Scenes from Saqqara tombs can be characterized as dynamic, displaying variation, whereas those from Giza can generally be characterised as static, conformist, displaying a lower degree of variation. When set in a diachronic perspective, a similar development can be detected. A uniform interplay of variation and austerity surfaced when studying the internal features of the scenes' representations. This trend has tentatively been related to the (changing) political situation and the (changing choice of) location for the royal funerary complexes. The exact rationale behind these trends, that is, the antithesis of Giza and Saqqara and the observed chronological development, is however another question. What exactly has caused these results should still be investigated further.

¹ The present article is based on the research conducted for my MA thesis at Leiden University (2008), *Fixed rules versus personal choice. The dynamics of Memphite Old Kingdom elite tomb decoration*. I would like to thank Karen Exell for checking my English, Karuna Sewdas for her help with the rendering of the tables and figures, and Nigel and Helen Strudwick for their useful comments. The opinions expressed in this article as well as any mistakes rest solely with the author.

² R. van Walsem, *Iconography of Old Kingdom Elite Tombs. Analysis &*

Interpretation, Theoretical and Methodological Aspects (Leiden 2005), 17–19. Van Walsem argues that since *mastaba*, ‘bench’ in Arabic, does not reveal anything of its hidden physical complexity, the word ‘tomb’ is best in keeping with the Old Egyptian word for the same: *js*. For a recent study on the Egyptian word for tomb, see I. Régen, ‘Aux origines de la tombe *js* . Recherches paléographiques et lexicographiques’, *BIFAO* 106 (2006), 245–314.

³ That is, not only the *Sinnbild* aspects of a scene, referring to the meaning or message that is integrated in the representation, but also the meaning for the tomb owner as exemplified by the choice to include the scene into his or her chapel's decorative programme. For a discussion of the term *Sinnbild*, as opposed to *Sehbild*, see van Walsem, *Iconography*, 71–83.

⁴ Such an holistic approach towards studying the tomb as one coherent unit is in accordance with the approach utilised by Vischak. Her tomb-as-object approach considers the tomb as a single, integrated unit, within which the formal and functional interdependence of the elements within this structure are emphasised. D. Vischak, ‘Common ground between pyramid texts and Old Kingdom tomb design: the case of Ankhmahor’, *JARCE* 40 (2003), 133–134.

⁵ The elite population should, however, certainly not be considered a homogeneous entity, but rather stratified, as was Egyptian society as a whole. Within the scope of the present research, no further subdivision is attempted.

⁶ A. O. Bolshakov, ‘Arrangement of murals as a principle of Old Kingdom tomb decoration’, *IBAES* 6 (2006), 37.

⁷ R. Van Walsem, ‘Diversification and variation in Old Kingdom funerary iconography as the expression of a need for “individuality”’, in S. Seidlmayer (ed.), *Religion in context. Imaginary concepts and social reality in Pharaonic Egypt* (Freiburg–Göttingen *in press*), 1 (provisional page number).

⁸ Van Walsem, in Seidlmayer (ed.), *Religion in context*, 5 (provisional page number).

⁹ *ibid.*, 5.

¹⁰ The exterior walls are not, except for the facade near and around the entrance doorway, as a rule employed for the application of decoration.

¹¹ A direct relation between tomb size and wealth has been argued by N. Kanawati, *The Egyptian administration in the Old Kingdom: evidence on its economic decline* (Warminster 1977). He analysed the trend in the wealth of Old Kingdom officials on the principle that the costliness of their tombs reflects their wealth (*ibid.*, 1). This presupposes a one-to-one relation between wealth and tomb size. According to Kanawati, it was the official himself who paid for the construction of the tomb, based on two inscriptions in which the tomb owner states that he paid the artisans (Meru-

ka and Remnu-ka called Imy).

¹² N. Strudwick, *The administration of Egypt in the Old Kingdom: The highest titles and their holders* (London 1985), 5.

¹³ V. Chauvet, 'Royal involvement in the construction of private tombs in the late Old Kingdom', in J.-C. Goyon and C. Cardin (eds), *Proceedings of the Ninth International Congress of Egyptologists = Actes du neuvième Congrès international des égyptologues, Grenoble 6–12 Septembre 2004* (OLA 150; Leuven 2007), I, 313–321. In order to study royal involvement in private tomb construction during the Old Kingdom, Chauvet analysed documents mentioning or referring to their construction. She inventoried 150 such statements, dating to the fifth and sixth dynasties. Only seventeen documents indicate the presence of royal involvement. She concludes that the central administration (not necessarily the king in person) was rarely involved directly in private tomb building (ibid, 315). However unusual the provision of a complete tomb to an official might be, there is inscriptional evidence for such provisions (e.g. Mer-Khufu / Debehen; Kanawati, *Administration*, 2). Building materials (e.g. Weni / Djau; Kanawati, *Administration*, 2), and particularly sarcophagi (e.g. Hetepher-akhti; H. T. Mohr, *The Mastaba of Hetep-Her-Akhti: study on an Egyptian tomb chapel in the Museum of Antiquities Leiden* (Leiden 1943), 35) are more commonly cited as gifts from the king.

¹⁴ N. Alexanian, 'Tomb and social status. The textual evidence', in M. Bárta (ed.), *The Old Kingdom Art and Archaeology. Proceedings of the conference held in Prague, May 31–June 4, 2004* (Prague 2006), 3.

¹⁵ Chauvet, in Goyon and Cardin (eds), *Proceedings of the Ninth International Congress of Egyptologists*, 315.

¹⁶ ibid.

¹⁷ Alexanian, in Bárta (ed.), *Old Kingdom Art and Archaeology*, 1. In her article, Alexanian tempers this apparent direct correlation, practiced in Egyptology by, for example, A. M. Roth, *A Cemetery of Palace Attendants* (Giza Mastabas 6; Boston 1995), 50. Adopted from Post-Processual and Contextual Archaeology, social status is said to be represented in a tomb with a symbolic code. In order for this symbolic code to be understood, it is recommended, according to Alexanian, that Egyptian texts, which can provide an insight view of Old Kingdom society, are studied.

¹⁸ For example, the original burial equipment is rarely found intact. The burial ceremony is even less well known. For a study of the activities in the mastaba tomb during and after the burial ceremony, see N. Alexanian, 'Ritualrelikte am Mastabagräbern des Alten Reiches', in H. Guksch and D. Polz (eds), *Stationen. Beiträge zur Kulturgeschichte Ägyptens. Rainer Stadelmann Gewidmet* (Mainz 1998), 3–22.

¹⁹ N. Kanawati and M. Abder-Raziq, *The Teti Cemetery at Saqqara, Volume V: The Tomb of Hesi*, (ACE Reports 13; Warminster, Wiltshire 1999), 38. For further discussion of this text, see e.g. D. P. Silverman, 'The

Threat-Formula and Biographical Text in the Tomb of Hezi at Saqqara', *JARCE* 37 (2000), 1–13.

²⁰ Silverman, *JARCE* 37 (2000), 13. Several reasons could be put forward for Hesi's construction of such a modest tomb. Alexanian (in Bárta (ed.), *The Old Kingdom Art and Archaeology*, 6) suggested motives such as insufficient available space in that part of the cemetery, the building (and finishing) of the tomb before his promotion to vizier, or the wish to construct his tomb in close proximity to the pyramid of the king under whom he served. The private cemetery surrounding the complex of Teti had been designed in conjunction with his pyramid. Viziers predating Hesi had taken the spaces closest to the pyramid (Chauvet, in Goyon and Cardin (eds), *Proceedings of the Ninth International Congress of Egyptologists*, 319), which thus left Hesi with the choice of building a large tomb a distance away or a smaller tomb at a more prominent plot, where there was little space for a large tomb. He apparently chose the latter option.

²¹ Alexanian, in Bárta (ed.), *The Old Kingdom Art and Archaeology*, 1–2.

²² Van Walsem, *Iconography*, 2.

²³ D. Vischak, 'Agency in Old Kingdom elite tomb programs: traditions, locations, and variable meanings', *IBAES* 6 (2006), 262.

²⁴ Van Walsem, in Seidlmayer (ed.), *Religion in Context*, 8 (provisional page number).

²⁵ J. Baines, 'Restricted knowledge, hierarchy, and decorum: modern perceptions and ancient institutions', *JARCE* 27 (1990), 17–21. Baines (op. cit., 20) refers to (the rules of) decorum as '[...] a set of rules and practices defining what may be represented pictorially with captions, displayed, and written down, in which context and in what form'.

²⁶ J. Baines, 'Communication and Display: the integration of early Egyptian art and writing', *Antiquity* 63 (1989), 296.

²⁷ Baines, *Antiquity* 63 (1989), 476. The thematic content of the iconographic programmes of private tombs and royal funerary complexes differ considerably. Compare for example A. Ćwiek, *Relief decoration in the royal funerary complexes of the Old Kingdom. Studies in the development, scene content and iconography* (PhD Thesis; Warsaw University 2003), 152–271, and R. Walsem, 'Sense and Sensibility. On the analysis and interpretation of the iconography programmes of four Old Kingdom elite tombs', *IBAES* 6 (2006), Appendix 2. The thematic subdivision of the iconography programmes of either sphere is, however, largely dependent on the scholar making the subdivision. Compare, for example, the subdivision of the iconographic programmes of Memphite Old Kingdom elite tombs produced by Müller (I. Müller, 'Die Ausgestaltung der Kultkammern in den Gräbern des Alten Reiches in Giza und Saqqará', *FuB* 16 (1974), 79–96), and Harpur (*Decoration in Egyptian tombs of the Old Kingdom: studies in orientation and scene content* (London 1987), 175), and Van Walsem (*IBAES* 6 (2006), Appendix 2).

²⁸ R. Van Walsem, *MastaBase. A Research tool for the study of the secular or 'daily life' scenes and their accompanying texts in the elite tombs of the Memphite area in the Old Kingdom* (Leuven–Leiden 2008).

²⁹ Such a development is the subject of Harpur's 1987 study, referred to by the author as a '[...] practical study of the developments and innovations which have altered the composition of scenes [...]'. Harpur, *Decoration*, 1.

³⁰ For the present paper, the chronology of E. Hornung, R. Krauss and D. A. Warburton (eds), *Ancient Egyptian chronology* (Handbook of Oriental Studies. Section 1. The Near and Middle East 83; Leiden 2006), 490–491, has been applied.

³¹ This is the number of tombs identified and entered into the mastaba database of the Leiden Mastaba Project (Van Walsem, *MastaBase*). This amount does not necessarily equal the number of all elite tombs ever constructed during this time frame. The total number of tombs constructed during the Old Kingdom and the number thereof which are (fully) published is separated by a gap of unknown proportions. This discrepancy between original number and currently identified tombs has been illustrated appositely by Van Walsem, *Iconography*, 44, scheme A.

³² Van Walsem, *MastaBase*; the Leiden Mastaba Database has been the main source for the present research.

³³ Only Abu Rawash is not included in the present research. This exclusion is due to the fact that none of the studied scenes has been found in a secure context in mastaba tombs of this site. Recently, the French mission working in Abu Rawash discovered a photograph from the excavations of Pierre Montet (1913) in the archives of the IFAO, showing a block with part of a procession scene with two human figures and an ibex. The block is attributable to the ruined mastaba M IX (M. Baud, 'Nécropole d'Abou Rawach: un récit de la saison 2006', <http://www.pernebou.fr/pdf/pernebou-abou-rawach-2006.pdf>, accessed 12/01/2010).

³⁴ The total number of tombs is lower than the sum of tombs for each sub-theme, since several themes occur together in one tomb. Five tombs could not be securely dated to a single dynasty, hence the denotation 'fifth/sixth dynasty'.

³⁵ For a more elaborate discussion on this approach, see N. Staring, 'Iconographic programme and tomb architecture: a focus on desert-related themes', in V. Gashe and J. Finch (eds), *Current Research in Egyptology 2008. Proceedings of the Ninth Annual Symposium held at the University of Manchester, January 2008* (Bolton 2008), 129–138.

³⁶ One of the pitfalls when studying the qualitative aspects of a scene is that the meaning or message is not made unambiguously apparent through the depiction only. Any interpretation will thus be highly subjective.

³⁷ For a schematised reproduction of these aspects and their interrelationship, see Staring, in Gashe and Finch (eds), *Current Research*

in *Egyptology* 2008, fig. 2.

³⁸ It should be understood that the selection of tombs on which this study is based does not represent the total range of existing tomb types or sizes. Those tombs that do not contain any of the themes under consideration have been left out of this overview. Therefore, possible deviating tomb types have not been considered.

³⁹ The type includes Reisner's type (6), the *mastaba chapels of the cruciform type* (G. A. Reisner, *A History of the Giza Necropolis* I (Cambridge 1942), 247–249), and corresponds to the *modified cruciform chapel* of Harpur (Harpur, *Decoration*, 99). The majority of cruciform chapels are encountered in Saqqara. The Saqqara cruciform chapels predate the L-shaped chapels characteristic of Giza. These therefore play a prominent part in view of the development of tomb chapel decoration, with a possible differentiation between Giza and Saqqara.

⁴⁰ The type is described by Reisner as the *two niched chapels of type (4a)* (Reisner, *Giza Necropolis* I, 214–218). Its present use also includes Reisner types (2), (3) and (5), differentiating, for example, between interior and exterior stone chapels. Harpur in her classification divided the L-shaped tombs according to the number of false doors in each (Harpur, *Decoration*, 63).

⁴¹ Including Reisner type (5) *Rock-cut chapels at Giza*, with some subdivisions (Reisner, *Giza Necropolis* I, 219–247). Harpur makes no distinction between double-room and multi-room, although she includes 'rock-cut chapels decorated in more than one room' with the latter (Harpur, *Decoration*, 104). Some tombs present a secondary reformation from L-shaped into double roomed, where one finds an artificial dividing wall between the entrance room and the chapel proper, built up of limestone blocks. The reorientation and alteration of the original plan of mastaba chapels is commonly observed in the Giza West Field Cemetery. See for example A. M. Roth, *Palace Attendants*, 13–15.

⁴² Corresponding to, for example, Reisner's complex chapels of type (12) (Reisner, *Giza Necropolis* I, 288–291).

⁴³ Only the superstructures of tombs have been taken into consideration. The subterranean structure, which initially consisted of the plain burial chamber, received decoration only in the course of the later Old Kingdom (sixth dynasty). The subject matter of the decoration is very distinct from that in the superstructure. The superstructure presents the accessible part of the chapel, not only for priests carrying out rituals for the cult of the deceased, but also for family members and other visitors. The burial chamber, on the other hand, was at no point accessible. Since the superstructure thus exclusively had a communicative function, only this part is taken into consideration for the present research.

⁴⁴ There is still debate on the functions of different rooms within the larger tomb complexes. On the pillared court, Bolshakov (A. O. Bolshakov, *Man*

and his Double in Egyptian ideology of the Old Kingdom (ÄAT 37; Wiesbaden 1997), 25), notes that its purpose has not been explained for certain. It has tentatively been interpreted as an area where relatives of the deceased could assemble for festive ritual meals. Müller (M. Müller, 'Iconography: basic problems of the classification of scenes', in G. M. Zaccane and T. R. di Netro (eds), *Sesto Congresso Internazionale di Egittologia Atti II* (Torino 1992), 338), also discusses the supposed connection between thematic cycle and location within a building, assuming a direct relationship between depicted activity (scene) and function (room). Slaughtering areas are identified in some Old Kingdom royal funerary temples, cf M. Verner, 'A Slaughterhouse from the Old Kingdom', *MDAIK* 42 (1986), 181–189. For a further discussion of their identification in archaeological and architectural remains, see e.g. Do. Arnold, 'The Architecture of Meketre's Slaughterhouse and Other Early Twelfth Dynasty Wooden Models', in P. Jánosi (ed.), *Structure and Significance. Thoughts on Ancient Egyptian Architecture* (DGÖAW 33; Wien 2005), 8–16.

⁴⁵ A. M. Roth, 'The Social Aspects of Death', in S. D'Auria, P. Lacovara and C. H. Roehrig (eds), *Mummies & Magic. The Funerary Arts of Ancient Egypt* (Boston 1988), 54.

⁴⁶ As already stated above, only the *Sehbild* character of a scene's representation has been considered.

⁴⁷ Müller, in Zaccane G. M., and T. R. di Netro (eds), *Sesto Congresso Internazionale di Egittologia Atti II*, 337–345.

⁴⁸ *ibid*, 338.

⁴⁹ Müller even wonders whether the Egyptians (patrons and artists) conceived of canonically established sequences of actions at all (in Zaccane G. M., and T. R. di Netro (eds), *Sesto Congresso Internazionale di Egittologia Atti II*, 339).

⁵⁰ For a more comprehensive discussion of the analysis, see Staring, in Gashe and Finch (eds), *Current Research in Egyptology 2008*, 132–137, and N. Staring, 'Contextualizing Old Kingdom Elite Tomb Decoration: Fixed Rules Versus Personal Choice', in P. Kousoulis (ed.), *Proceedings Tenth International Congress of Egyptologists Rhodes* (in press).

⁵¹ Van Walsem, *MastaBase*.

⁵² Only in one tomb is the 'slaughtering of desert cattle' scene found outside the cult chapel. In the tomb of Mehu (Saqqara, sixth dynasty), two such scenes are found in the antechamber ('Mittelraum') to the cult chapel; H. Altenmüller, *Die Wanddarstellungen im Grab des Mehu in Saqqara* (AV 42; Mainz am Rhein 1998), 156–162, fig. 12, pl. 48–51. Moreover, the chapel actually contains three separate scenes of the slaughtering of desert cattle; Altenmüller, *Grab des Mehu*, 193–198, fig. 19, pl. 72–74. Thus, the tomb of Mehu is not completely deviant. If the scene was selected to be part of a tomb's iconographic programme, it was at least applied in the cult

chapel. Mehu opted for a more elaborate execution of the scene and, perhaps due to the restricted availability of wall surface, he chose the room next door for a further two scenes.

⁵³ Staring, in Gashe and Finch (eds), *Current Research in Egyptology 2008*, fig. 6.

⁵⁴ *ibid*, fig. 7.

⁵⁵ Oryx is included in all desert cattle slaughtering scenes, except for the tombs of Seankhuptah (dorcass gazelle; sixth dynasty, Saqqara; N. Kanawati and M. Abder-Raziq, *The Teti Cemetery at Saqqara, Volume III: The tombs of Nefersehemre and Seankhuptah* (ACE Reports 11; Warminster 1998), pl. 70) and Mehu (dorcass gazelle; sixth dynasty, Saqqara; Altenmüller, *Grab des Mehu*, pl. 49). Animals in slaughtering scenes comprise only 5% of all (desert) animals depicted in the scenes studied (975 animals, constituting 30 species). The number per theme is as follows: desert hunt, 354 animals, 31 species; offering procession, 528 animals, 20 species; care for desert cattle, 58 animals, 10 species.

⁵⁶ Six animals were noted in the tomb of Ti (Saqqara, fifth dynasty; H. Wild, *Le Tombeau de Ti III* (MIFAO 65; Le Caire 1966), pl. CLXIII); south wall of the offering chapel (room with false door): two oryx, two ibex, one addax, and one hartebeest. Another slaughtering scene, comprising two animals, is located on the west wall of the same room.

⁵⁷ Slaughtering of desert cattle scenes comprise 17% of all human figures observed in the desert animal-related themes. The desert hunt yielded 37 human figures, care for desert cattle 36, and the offering processions 463.

⁵⁸ It concerns the already mentioned slaughtering scene on the south wall of the offering chapel of Ti. Wild, *Tombeau de Ti*, pl. CLXIII.

⁵⁹ W. M. Flinders Petrie, *Medum* (London 1892), pl. XVIII [right].

⁶⁰ A. Mariette, *Monuments divers recueillis en Égypte et en Nubie* (Paris 1872), 117.

⁶¹ For a discussion on these scenes, see: S. Ikram, *Choice Cuts: meat production in Ancient Egypt* (OLA 69; Leuven 1995), 53–54.

⁶² LD II, 32. This first attestation applies only to desert cattle studied for the present research. The first attestation for domestic cattle is in the tomb of Rahotep (A. Eggebrecht, *Schlachtungsbräuche im alten Ägypten und ihre Wiedergabe im Flachbild bis zum Ende des mittleren Reiches* (München 1973), pl. IB).

⁶³ When considering all desert animal-related scenes analysed in the present research, 59% include text. This figure might be somewhat different to the ‘real’ ratio, since not all scenes considered here were completely preserved. It may be that text was originally included in a larger number of cases. This drawback obviously applies to all aspects studied, whether internal or external.

⁶⁴ My translation of Erman's phrase ‘Sprache des niedrigen Volkes’ (A.

Erman, *Reden, Rufe und Lieder auf Gräberbilder des Alten Reiches* (Berlin 1919), 4). A more comprehensive study of these phrases is presented by W. Guglielmi, *Reden, Rufe und Lieder auf altägyptische Darstellungen der Landwirtschaft, Viehzucht, des Fisch- und Vogelfangs vom Mittleren Reichs bis zur Spätzeit* (TÄB 1; Bonn 1973).

⁶⁵ cf D. Jones, *An index of Ancient Egyptian titles, epithets and phrases of the Old Kingdom II* (BAR 866/2; Oxford 2000), 591 [2167]; variants: 591–594 [2168–2176]; P. Kaplony, ‘Ka-Diener’, in W. Helck and E. Otto, *Lexikon der Ägyptologie III* (Wiesbaden 1980), 282–284.

⁶⁶ Tomb of Senedjem-ib : Mehi (fifth dynasty; Giza): offering procession scene (east side of south wall of antechamber). LD II, pl. 74b.

⁶⁷ Within the collection of desert animal-related scenes studied, only the ‘slaughtering of desert cattle’ contains a substantial number of conversations between represented human figures. No fewer than 27 phrases of this type are attested in scenes of this sub-theme.

⁶⁸ We know of 24 scenes in which a butcher is observed cutting off a leg. In 23 cases this concerns the foreleg, while only two scenes depict the hind leg being cut off: Ptahhetep II (Fig. 4) and in the tomb of Idut (R. Macramallah, *Le Mastaba d'Idout* (Cairo 1925), pl. XX). In the latter scene the butcher is occupied with the hind leg only: the foreleg of the oryx has already been cut off.

⁶⁹ The Giza plateau had, however, already been employed as a necropolis during the early dynastic period (G. T. Martin, ‘“Covington's Tomb” and Related Early Monuments at Gîza’, in C. Berger and B. Mathieu (eds), *Etudes sur l'Ancien Empire et la necropole de Saqqâra dédiées à Jean-Philippe Lauer* (Montpellier 1997), 279–288), including a presumably royal tomb from the third dynasty, the so-called Covington's tomb (P. Jánosi, *Die Gräberwelt der Pyramidenzeit* (Mainz am Rhein 2006), 19–21).

⁷⁰ The onset of a systematically organised private necropolis in the vicinity of the royal funerary complex is, however, already observed in fourth dynasty Dahshur (N. Alexanian and S. J. Seidlmayer, ‘Die Nekropole von Dahschur. Forschungsgeschichte und Perspektiven’, in M. Bárta (ed.), *Abusir and Saqqara in the Year 2000* (Prague 2000), 292).

⁷¹ M. J. Raven, *Architectural principles in theory and practice: the New Kingdom necropolis at Saqqara (Egypt)* (Amsterdam 2005), 34.

⁷² The same applies for the architectural development of tombs during these kings’ reigns, cf M. Bárta, ‘Architectural Innovations in the Development of the Non-Royal Tomb during the Reign of Nyuserrá, in Jánosi (ed.), *Structure and Significance*, 105–130.

Village, town and barracks: a fourth dynasty settlement at Heit el-Ghurab, Giza

Ana Tavares

The Giza Plateau Mapping Project (GPMP)¹ evolved from its beginnings in surveying and mapping the landscape at Giza into a large-scale settlement excavation in the area known as Heit el-Ghurab ('Wall of the Crow').² The site is named after its most distinguishing feature, a 10 m tall, 200 m long stone wall, below the eastern edge of the southern Giza escarpment (el-Gebel el-Qibly). Twenty years of excavation salvaged an extensive area of fourth dynasty settlement dated to the reigns of Khafre and Menkaure.³ The town was abandoned and dismantled when the Giza pyramid building projects came to an end. Soon thereafter, forces of erosion cut what is essentially a horizontal section through the site before it was buried by a thick layer of sand.⁴ There seems to have been no further occupation at the site until its use as a burial ground starting from the 25th dynasty and continuing until Roman times (second century AD).⁵

Three distinct urban areas (Galleries, Eastern Town and Western Town) comprise the fourth dynasty settlement. Their distinctness is reflected in the urban layout, size and design of structures,⁶ and by the patterns emerging in the distributions of faunal, botanical, lithic and ceramic material.⁷ These distinct urban areas are linked by streets, gates and enclosure walls.⁸ While excavating and recording, and for ease of reference, Lehner named structures and parts of the settlement as Galleries, Royal Administrative Building, Main Street, Eastern and Western Towns, and so on. These are working designations and do not necessarily define the original function of the structures or areas. A plan of the site will found as Plate 14.

Barracks

The central part of the settlement is a set of four blocks of ‘Galleries’, laid out orthogonally and separated by three broad (10 cubits wide) and straight roads running east–west. The southern blocks are built back to back, creating a massive structure with north–south walls running for 70 m. The central road, Main Street, separates Gallery Set II from Gallery Set III and leads to the only known gate in an enclosure wall.⁹ We have excavated one unit (Gallery III.4) in its entirety, and have found that it has a central low bench running along its length into which stone bases, probably for slender wooden columns, are sometimes embedded at regular intervals close to five cubits. The main space is divided in two and has a series of bed platforms across the width, with a ‘house’ at the back, possibly for an overseer.¹⁰ Lehner has hypothesised that a royal guard (*nfrw*), rather than just workers, might have been housed in the Galleries.¹¹ Material culture excavated from the barracks indicates that the site was centrally provisioned. There are parallels in the material culture (pottery, finds, botany and faunal remains) of other centrally provisioned fourth dynasty sites, such as Sheikh Said and Wadi Garawi which housed a workforce for quarry and dam construction work respectively.¹²

The Royal Administrative Building (RAB)

A thick, and presumably tall, masonry wall separated this large building from the Galleries and from the Eastern Town. In the later phase of the complex, when the structure was remodelled and the silos were built in a sunken courtyard at the back of the building, a double masonry wall forming a covered and secure street surrounded the entire complex.¹³ Access to this building and to the magazines that lined up on the west was strictly controlled. The enclosure wall, running south from the Wall of the Crow, curves to the east separating the southern end of the Gallery Complex from the northern part of the Western Town. It then turns twice at 90 degree angles, firstly north and then east, around the perimeter of the RAB creating an enclosed street. The southern end of the RAB building has not yet been recorded as it lies below the modern Abu Hol sports club. The RAB Street was accessible through an opening at the north-east corner of the RAB enclosure presumably the back of this layout, and this access point also controlled access to the Western Town.¹⁴

Village

The Eastern Town shows a more self-organised urban pattern, with small courts and chambers comprising houses that are smaller than those in the Western Town. We excavated one small urban estate; a core house

surrounded by courts covering an area around 100 square metres. Non-orthogonal, small streets and passages characterise this part of the settlement, which contains small hearths and silos. The analysis of material culture from the Eastern Town reflects a village economy, with higher density and variety of plant items and evidence of pig raising.¹⁵ This town extend eastwards under the modern town of Nazlet es-Samman.¹⁶

The Western Town

The Western Town is an area of large houses and production units to the south and west of the site. The houses here are very large. House Unit 1 covers an area of 400 m². In this house we have recorded 21 rooms. A very private bedroom at its core includes a double bed platform and painted plastered walls. The other rooms of this house contain storage bins, pedestals and a bakery at the south-eastern corner.¹⁷ To the southeast we have recorded another house, House Unit 3, which features a central open courtyard with a tree pit.¹⁸ A mounded dump between two of the large houses yielded high numbers of cattle bone and thousands of formal sealings, documenting administration by high-ranking scribes with ties to the vizier's office.¹⁹ Area AA to the west contains the Pedestal Building, founded on a higher level beyond a thick fieldstone and mud-brick wall. This layout may have related to specialised storage in compartments raised upon the pedestals and possibly malt production.²⁰

Early Phase

We do not know if all the elements comprising the Heit el-Ghurab overall site map were contemporary. We have intimations of an early layout of the settlement and we recognise phases of site development.²¹ For instance, the northern block of galleries, Gallery Set I, predates the construction of the massive Wall of the Crow that bounds the site on the north. Gallery Set III initially had entrances on the south, which became internal doorways with the construction of Gallery Set IV. The initial layout of the barracks might have consisted of Gallery Sets I, II and III separated by east–west broad streets (see figure A).²² We have recorded parts of what might have been an early limestone enclosure wall and gate just south of the Chute and southwest of the Main Street gate through the later enclosure wall.²³ In the north-western corner of the large RAB (Complex 2), we excavated an early layout (Complex 2), that was functioned prior to the construction of the enclosure wall. The RAB complex (Complex 1), including the sunken courtyard with large storage silos, was built in a later remodelling of the site. The enclosure wall was likewise built after Complex 1, and it formed with

the outer RAB wall a street north and west of the RAB.²⁴ We have also recorded parts of an early industrial area, possibly for faience production, to the southeast of the Hypostyle Hall in the area we term EOG, which was later given over to bread production.²⁵ At the northeast of the site, very large, early mud-brick structures emerged in the sections of the modern machine cuts (BBHT and BBHT2) on the eastern edge of the Galleries Set II and III, both to the south and north of Main Street.²⁶

Giza settlement levels

The general elevation of the top of the Heit el-Ghurab settlement ruins is around 16–17 m asl (Above Sea Level), while the settlement recorded further east under the modern town of Nazlet es-Samman is around 14.70 m asl.²⁷ Lehner, El-Sanussi and Jones suggest that the Old Kingdom flood plain is around 12–13 m asl in the Giza area, with flood peak maximum at around 14.50 m asl.²⁸ Lehner sees the modern 18 m contour line as a residual trace of fourth dynasty harbours.²⁹ The Heit el-Ghurab site is on the desert edge, built on sands and gravels, and to the north built partly on the wadi fan, hence the lowest recorded levels of occupation are around 14.80 to 15.00 m asl. Parts of the site show thick gravel and limestone chip dumped deposits used to level and build-up the surface prior to building.

The Eastern Town seems to have been built on a land spur extending east³⁰ with the settlement sloping down to the north (N99,130) and to the south (N99,010). To the east of Heit el-Ghurab, under the modern town, the Old Kingdom settlement is estimated to extend over 3 km² and may have consisted of three main conglomerations, spreading ribbon-like on both sides of the Bahr el-Libeini canal.³¹ This canal runs along the eastern desert escarpment and has long been thought to indicate a residual Nile branch.³² The Eastern and Western Towns do not show substantial depth of occupation, although there is evidence of extensive remodelling within structures. Once the settlement was dismantled and abandoned, the site seems to have suffered severe erosion, as evident in the central area of the Western Town, where an outlying tomb from the Old Kingdom cemetery is built over already eroded and denuded house structures.³³

The site dips into a low-lying area in the south along the southern limit of the Eastern Town and the eastern edge of the Western Town. This depression seems to extend under part of the modern soccer field (see Plate 14, area designated as Lagoon 1). Surprisingly, there are substantial architectural remains to the south of this low lying area. The structures, named Standing Wall Island, are adjacent to the south-west corner of the modern soccer field and consist of mud-brick and limestone walls preserved to a height of 1.5 m. They have a different alignment than other buildings at the Heit el-Ghurab, which are aligned just 3° west of north while this

What bounded the site at the north-east?

On the north the site is bounded in its later phases by the Wall of the Crow, which abutted an existing second phase of Gallery Set I. A trench off the immediate eastern end of the Wall of the Crow found an earlier phase of the western wall of Gallery Set I, 0.80 m to the east of the last phase.³⁵ There is no trace of a northern boundary wall on the northeast of the site (except the northern wall of Gallery Set I). Excavations show parts of an eastern boundary wall (area MSE) separating the Galleries from the Eastern Town.³⁶ Why there was no need to build a northern boundary beyond the western side of Gallery Set I? If Gallery Set I originally extended as far east as Gallery Sets II and III it would have covered an area of 3,500 m². It would form a solid block possibly providing enough of a boundary to the site. Another possibility is that the site was bounded on the north-east by a harbour delivery area.³⁷

The settlement ruins disappear in the north-east part of the site (see Plate 14). Deep sondages that we excavated in 2002 within the foundation trench of the modern security wall, to the north of the projected line of Main Street (N99,140), showed no settlement within the usual Old Kingdom horizon around elevation 15–17 m asl. Test trenches in the north-east of the site, designated LNE (see Plate 14, coordinates N99,200–210 and E500,750.5–765.5) revealed at 15.66 m asl a patch of Old Kingdom surface but no architectural remains.³⁸ The settlement extends southwards (down to N99,010) around the RAB but not into the low-lying area further south (see below and Plate 14). The relocation of the soccer field would enable us to gain a better understanding of the southern part of the site.

The extensive settlement to the south of the Wall of the Crow contrasts with the situation to the north of this wall where there are no built structures, simply ephemeral installations on prepared Old Kingdom surfaces of dumped limestone rubble extending at least 30 m north of the gate in the Wall of the Crow. At the eastern end of this wall, we found the remains of a construction ramp or embankment, designated 'masons' mound.'³⁹ We also have a contrasting picture on the north-east of the site where there are substantial architectural remains from the early phase in the area immediately east of a large modern backhoe trench (BBHT), but we cannot trace the settlement further north and east (to the east of Gallery Set I and in LNE, the far eastern sondage).⁴⁰ After the site was dismantled, and mined for mud-brick and sand, the forces of erosion cut a horizontal section through the settlement. We are still investigating these processes. In the area of the BBHT at 17 m asl we see flood deposits, showing a rippled surface with laminations of sand and fine silts created by floods. The highest silt

layers date to the Graeco-Roman period on the basis of embedded pottery sherds.⁴¹

What is missing at Heit el-Ghurab?

Certain structures have not been identified at the Heit el-Ghurab site. These are: a water storage area, latrines and middens, and cult structures. We might expect a water storage area, possibly extra-mural near a gate, similar to the *zir* area at the workmen's village at Amarna,⁴² or water tanks such as those found at the Khentkaues and Menkaure settlements at Giza.⁴³ It is possible that water was easily available either from a harbour to the northeast of the site⁴⁴ or from the main Nile channel which might have flowed only 200 m to the east of the Heit el-Ghurab site.⁴⁵ We would expect that provisioning the large workforce with water, at the settlement as well as on the building site, would have required a large investment of people and time.

We would not expect formal latrines at the site⁴⁶ but we have excavated outside the enclosure wall in search for a 'toilet' area and middens (dumps of domestic waste). Organic material is not preserved in the main Heit el-Ghurab site and we hoped that desiccated material might be found in the waste dumps on the western edge of the settlement. Here we excavated part of an extensive sherd dump, similar to the widespread dumping to the east of the Galleries, area EOG (East of the Galleries). These deposits in EOG seal the early industrial faience production area, and form a levelling deposit for the conduction of bakeries and pedestals which characterise the later use on the site. Waste was also disposed of by being dumped in disused houses or rooms from neighbouring houses. This is the case of the dump designated as Pottery Mound to the south of House Unit 1 in the Western Town.⁴⁷

We have not identified cult structures, such as chapels or house shrines at the Heit el-Ghurab settlement. We might not expect chapels for popular worship before the Middle and New Kingdoms,⁴⁸ as earlier periods required intermediaries between the individual and the divine.⁴⁹ No formal cult areas have been identified in other workmen's settlements at Sheikh Sayd, Sadd el-Kafara, elsewhere at Giza⁵⁰ or in Middle Kingdom town of Illahun.⁵¹ The lack of inscribed material, paradoxical in a site administering the centralised resources of fourth dynasty Egypt, prevents us from knowing if local matters were settled locally (possibly by a the council such as that at Deir el-Medina that held judicial sessions in the cemetery adjacent to the workmen's village) or were dealt with by the central administration.⁵²

A study of exceptions

The study of Egyptian urbanism has been characterised as a study of

exceptions. O'Connor stated that discussions of Egyptian urbanism were based on sites 'decidedly untypical of most Egyptian settlement'.⁵³ Many settlements were deemed to be unrepresentative of Egyptian urbanism in general. This would include single purpose towns (pyramid towns, workmen's villages, quarry settlements, forts), short-lived towns and new foundations (Tell el-Amarna, Pi-Rameses), towns un-'Egyptian' in character (Tell elDaba, eastern Delta settlements), and towns with specific topographic constraints (Elephantine).

In fact these 'unusual' settlements might reflect, not just archaeological bias, but the diversity in form and function of ancient Egyptian settlements. Three decades ago Bietak, argued that the 'individual peculiarity' of Egyptian urbanism required a specifically Egyptian classification⁵⁴ while Kemp provided an encompassing discussion of the dynamics of Egyptian urbanism.⁵⁵ There is an ongoing debate about how to define cities and towns in an ancient Egyptian context.⁵⁶ For Wilson specialised urban settlements such as pyramid towns, capitals, and so on, do not constitute 'cities'. Although he does not clearly define 'city', he considers size and longevity as main, determining characteristics.⁵⁷ Gordon Childe in his seminal study listed ten criteria that distinguish ancient cities from surrounding towns and villages.⁵⁸ Several of his criteria have been corroborated in subsequent urbanism discussion; relative population size, craft specialisation and storage of surplus goods are consistent elements of most definitions of the term 'city'. More recently Hassan proposed a definition applicable to Ancient Egypt based on settlement size, distances and population.⁵⁹

The ancient Egyptian words for 'town' and 'city' were used with a certain flexibility, and do not seem to define rigidly different types of settlement.⁶⁰ The words for town, *ḥwt* and *njw.t*, refer to a walled settlement with the basic distinction based on shape not on size.⁶¹ At Giza two settlement names are attested; the 'northern Gerget of Khufu' and the 'southern Tjeniu of Khafre'.⁶² There are also mentions of the '*ra-she* of Khufu' which may designate a basin.⁶³ Lehner suggested a hypothetical location for the two settlements and for the *ra-she* of Khufu, Khafre and Menkaure.⁶⁴ Subsequent work has confirmed some of these hypotheses.⁶⁵

What kind of settlement is the Heit el-Ghurab site?

The Heit el-Ghurab site has been described as a worker's camp.⁶⁶ A camp can designate a place for a temporary stay, a set of buildings where people are housed temporarily, for example, as prisoners, refugees, or troops; or describe a site with short-term, removable accommodation. This later definition is not applicable to the Heit el-Ghurab site as it is characterised by

very large buildings using up to 185,000 mud-bricks alone in each individual gallery structure.⁶⁷ However the central part of the site certainly seems to have been a barracks providing accommodation for a rotating labour force or perhaps for troops.⁶⁸ The settlement could be considered 'temporary' to the extent that it seems to have been abandoned and dismantled soon after the completion of the building task.⁶⁹ Nevertheless the Heit el-Ghurab site functioned at least for the duration of the reigns of Khafre and Menkaure which is possibly twice as long as the life span of the city of Amarna. Furthermore based on the titles found on mud sealings in the Western Town, an important part of the central administration may have been located here.⁷⁰

The Heit el-Ghurab site has also been described as the 'largest known pyramid town'.⁷¹ The definition of pyramid towns and the identification of these with excavated settlements remains a source of debate.⁷² While Bietak includes settlements housing pyramid builders, craftsmen and officials within the definition of pyramid town,⁷³ Stadelmann sees pyramid towns as specialised settlements, for those involved in the administration of the funerary cult, which developed around valley temples. Thus he considers that pyramid builders' settlements did not develop into pyramid towns.⁷⁴ In his discussion of seventeen Old Kingdom pyramid related settlements Bussmann regards only two of these as pyramid towns.⁷⁵ Recent excavation results compel us to refine and modify our understanding of these settlements.⁷⁶

We should also consider that the Heit el-Ghurab site functioned in the wider context of settlements, industrial installations and large stone enclosures at Giza.⁷⁷ These included the settlement southeast of Menkaure's pyramid,⁷⁸ the structures west of Khafre's Pyramid,⁷⁹ the settlement in the Menkaure Valley Temple⁸⁰ and the Khentkaues Town.⁸¹ After the reign of Menkaure settlements at Giza seem to have contracted into smaller areas associated with Pyramid temples. Further investigation is needed for a better understanding of the longevity of these sites beyond the fourth dynasty; however it is clear that the Khentkaues town and the village inside and around the Menkaure Valley Temple continued to function at least until the end of the Old Kingdom.

*A Shifting Capital?*⁸²

The locations of the necropoleis indicate the whereabouts of contemporary settlement.⁸³ It is possible that the substantial necropolis at Giza and the near absence of fourth dynasty burials in older cemeteries would have been accompanied by a movement of the settlement and the royal administration. The closest to a 'capital' in the Old Kingdom might have been the royal residence, which is assumed to have been located near the pyramid complex.⁸⁴ Thus the Old Kingdom 'capital' might have been a non-

nucleated settlement⁸⁵ spreading over an area of 30 km and moving with the royal necropolis from Abu Roash to Dahshur. Bard states that the ‘Giza settlements do not suggest a functioning state capital’.⁸⁶ Nolan’s analysis of mud sealings from the Heit el-Ghurab indicates that important aspects of central administration took place here, but he states that this was probably not the location of the main residence.⁸⁷ Further discussion of Giza settlements and the location of the Old Kingdom capital would be profitably set within a consideration of the overall urban and landscape context of the ‘Capital Zone’.⁸⁸

Conclusion

The fourth Dynasty settlement excavated at the Heit el-Ghurab site has revealed a series of distinct urban areas, varying in their layout, size and design of structures as well as in the patterns emerging from the material culture. Although this large, special purpose settlement did not develop into a long-term city it played a pivotal role in the development of the Old Kingdom, revealing as Lehner stated not only how the Egyptians built the pyramids but ‘how the pyramids built Egypt’.⁸⁹ By participating in the building of the pyramids the ancient Egyptians would have developed a sense of identity and common purpose with the state.⁹⁰ The Old Kingdom state is characterised by Kemp as a ‘provider state’ with pyramid building as a form of state public expenditure.⁹¹ Lehner has discussed ancient Egypt society in the light of segmentary systems, the Patrimonial Household Model, and complex adaptive systems. He postulates that complexity in ancient Egypt was not derived from centralised decision making, which in itself was not all that complex, but in the connections between households and a fractal replication of household modes of production and organisation.⁹² Heit el-Ghurab site lies at the core of this seemingly centralised fourth Dynasty state and has provided a more complex picture of Egyptian settlements.

List of principal excavation abbreviations

BHT	Backhoe Trench
BBHT	Big Backhoe Trench
BBHT2	Big Backhoe Trench 2
EOG	East of the Galleries
LNE	Leap to the North-East
MSE	Main Street East
RAB	Royal Administrative Building

¹ The Heit el-Ghurab site is extensively published in preliminary reports and articles. This text is essentially a bibliographical summary of the team’s publications. A number of publications, including *AERAGRAM* and the Ancient Egypt Research Associates (AERA) *Giza Occasional Papers*

(henceforth GOP) are available for download on the project's web site <http://www.aeraweb.org/> (accessed 18 October 2010).

² M. Lehner, 'Introduction', in M. Lehner and W. Wetterstrom (eds), *Project History, Survey, Ceramics, and the Main Street and Gallery III.4 Operations* (AERA Giza Reports 1; Boston 2007), 3–50.

³ The only inscribed material retrieved at the site consists of mud sealings some of which can be dated to the reigns of Khafre and Menkaure: J. Nolan, *Mud Sealings and Fourth Dynasty Administration At Giza* (PhD dissertation, Dept. of Near Eastern Languages and Civilizations, The University of Chicago, June 2010). The ceramics material confirms a mid-fourth dynasty date, A. Wodzińska 'Preliminary Ceramic report', in Lehner and Wetterstrom (eds), *Giza Reports* 1, 283–342.

⁴ Lehner in Lehner and Wetterstrom (eds), *Giza Reports* 1, 27, 39–40.

⁵ J. Kaiser, 'Mapping Late Period Burials' in M. Lehner, M. Kamel and A. Tavares (eds), *Giza Plateau Mapping Project, Season 2005, Preliminary Report* (GOP 2; Boston 2006), 77–79. For the dating of the burials I thank Sabine Laemmel (personal communication 2010).

⁶ Lehner in Lehner and Wetterstrom (eds), *Giza Reports* 1, 43–50.

⁷ M. Lehner, 'Life Stories of the Pyramid City Unfold', *AERAGRAM* (2003) 6.2, 1–5; R. Redding, 'Gallery III.4 faunal remains', in Lehner and Wetterstrom (eds), *Giza Reports* 1, 263–269; R. Redding, 'Status and Diet at the Workers' Town, Giza, Egypt' in D. Campana, P. Crabtree, S. deFrance, J. Lev-Tov, and A. Choyke (eds), *Anthropological Approaches to Zooarchaeology: Colonialism, Complexity and Animal Transformations* (Oxford 2010 forthcoming); Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports* 1, 283–342; M. A. Murray 'Feeding the Town: New Evidence from the Complex of the Giza Pyramid Builders', *General Anthropology* 11 (2005), 1–8.

⁸ M. Lehner and A. Tavares, 'Walls, Ways and Stratigraphy: Signs of Social Control in an Urban Footprint at Giza', in M. Bietak, E. Czerny and I. Forstner-Müller (eds), *Cities and Urbanism in Ancient Egypt. Papers from a workshop in November 2006 at the Austrian Academy of Sciences* (UZK 35; Vienna forthcoming). Enclosure walls are important defining elements in settlements: B. Kemp, *Ancient Egypt: Anatomy of a Civilisation* (New York 2006), 194–197, B. Kemp, 'Egypt's Invisible Walls', in *CAJ* 14 (2004), 259–260; N. Moeller, 'Evidence for Urban Walling in the Third Millennium BC', in *CAJ* 14 (2004), 261–265.

⁹ M. Lehner, 'The Pyramid Age Settlement of the Southern Mount at Giza', *JARCE* 39 (2002), 27–74.

¹⁰ A. Abd el-Aziz, 'Main Street Excavations', in Lehner and Wetterstrom (eds), *Giza Reports* 1, 109–140.

¹¹ M. Lehner, 'Zau of What? The Royal Guard?', *AERAGRAM* 7.1 (2004), 14–15.

- ¹² G. Dreyer and H. Jaritz 'Die Arbeiterunterkünfte am Sadd al-Kafara', *Mitteilungen des Lichtweiss-Instituts für Wasserbau der Technischen Universität Braunschweig*, Braunschweig 81 (1983), B2–20; G. Dreyer and H. Jaritz, 'Wadi Garawi Dam', in [Ausgrabungen, Forschungsreisen, Geländebegehungen]. Ägypten, *Archiv für Orientforschung* 32 (1985), 128–184, Harco Willems et al., 'An industrial site at al-Shaykh Sa'id/Wadi Zabayda' in *Ä&L* 19, forthcoming.
- ¹³ F. Sadarangani 'Summary of BB Excavations, 2006–2007' in M. Lehner, M. Kamel and A. Tavares (eds), *Giza Plateau Mapping Project, Season 2006–2007, Preliminary Report* (GOP 3; Boston 2009), 61–65 with further references, and Lehner, Kamel and Tavares (eds), GOP 2, 43–60.
- ¹⁴ M. Lehner and F. Sadarangani, 'Beds for Bowabs in a Pyramid City', in Z. Hawass and J. Richards (eds), *The Archaeology and Art of Ancient Egypt. Essays in Honor of David B O'Connor II* (CSA ASAE 36; Cairo 2007), 59–81.
- ¹⁵ Murray, *General Anthropology* 11 (2005), 1–8; Redding, in Lehner and Wetterstrom (eds), *Giza Reports* 1, 263–269; Redding, in Campana et al. (eds), *Anthropological Approaches to Zooarchaeology* (Oxford forthcoming).
- ¹⁶ M. Jones, 'A new Old Kingdom settlement near Ausim: report of the archaeological discoveries made in the Barakat Drain Improvements Project', *MDAIK* 51 (1995), 85–98, A. El-Sanussi and M. Jones, 'A site of the Maadi Culture near the Giza Pyramids', *MDAIK* 53 (1997) 241–253.
- ¹⁷ M. Lehner, 'Bakery or Brewery in House Unit 1?', in M. Lehner (ed.), *Giza Plateau Mapping Project, Season 2009, Preliminary Report* (GOP 5; Boston 2011), 131–133; F. Sadarangani and Y. Kawae, 'Soccer Field West, House Unit 1, 2009', in Lehner (ed.), GOP 5, 135–145.
- ¹⁸ Lehner, Kamel and Tavares (eds), GOP 2, 74–76.
- ¹⁹ J. Nolan and A. Pavlick, 'Impressions from the Past: Seals and Sealings from Pottery Mound' in *AERAGRAM* 9.1 (2008), 2–4
- ²⁰ M. Lehner 'Enigma of the Pedestal Building: Desert Refrigerator, Malting Machine, or Both?' in S. Ikram and A. Dodson (eds), *Beyond the Horizon, Studies in Egyptian Art, Archaeology, and History in Honour of Barry J. Kemp* (Cairo 2009), 182–214.
- ²¹ M. Lehner, 'The Older Phase: A Glimpse of the Early Pyramid Age at Giza', *AERAGRAM* 3.1 (1999), 8–11.
- ²² Lehner, *JARCE* 39 (2002), 27–74.
- ²³ Recorded by Adel Kellany in a deep probe which descended to 14.66 m asl, see M. Lehner, M. Kamel and A. Tavares, *Giza Plateau Mapping Project, Season 2004, Preliminary Report* (GOP 1; Boston 2009), 10.
- ²⁴ Sadarangani, in Lehner, Kamel and Tavares (eds), GOP 3, 61–65 with further references, F. Sadarangani 'The Royal Administrative Building' in M. Lehner and W. Wetterstrom (eds), *Giza Reports* 2 (Boston

forthcoming).

²⁵ Lehner, Kamel and Tavares (eds), in *GOP* 3, 49–59; Lehner, Kamel and Tavares (eds), *GOP* 2, 35–39. EOG indicates ‘East of the Galleries’, an area of auxiliary structures extending east from the galleries to the eastern enclosure wall.

²⁶ Lehner, Kamel and Tavares (eds), *GOP* 3, 30–35.

²⁷ El-Sanussi and Jones, *MDAIK* 53 (1997), 241–253.

²⁸ Jones, *MDAIK* 51 (1995), 85–98; El-Sanussi and Jones, *MDAIK* 53 (1997), 241–253; Lehner, Kamel and Tavares (eds), *GOP* 3, 142.

²⁹ Z. Hawass ‘The Discovery of the Harbors of Khufu and Khafre at Giza’ in C. Berger and B. Mathieu (eds), *Études sur l’Ancien Empire et la nécropole de Saqqara dédiées à Jean-Philippe Lauer* (Montpellier 1997), 246–250; Z. Hawass and M. Lehner, ‘Builders of the Pyramids’ in *Archaeology* (January/February 1997), 30–43.

³⁰ Lehner, *JARCE* 39 (2002), 27–74.

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³⁵ Lehner, *JARCE* 39 (2002), 27–74.

³⁶ Lehner, *JARCE* 39 (2002), 27–74; Lehner, Kamel and Tavares (eds), *GOP* 3, 30–40.

³⁷ G. Goyon, ‘Les ports des pyramides et le grand canal de Memphis’, *RdE* 23 (1971), 137–153. M. Lehner, ‘Valley Complex for a Queen Who Would be King’, in *AERAGRAM* 10.2 (2009), 7–9.

³⁸ Lehner in Lehner and Wetterstrom (eds), *Giza Reports* 1, 37–39

³⁹ For the work on the north of the Wall of the Crow see Lehner, Kamel and Tavares (eds), *GOP* 1, 45–54; Lehner, Kamel and Tavares (eds), *GOP* 2, 21–31; and Lehner, Kamel and Tavares (eds), *GOP* 3, 12–24.

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⁴⁵ M. Lehner, 'Capital Zone Walk-About 2006: Spot Heights and the Third Millennium Landscape' in Lehner, Kamal and Tavares (eds), GOP 3, 97–151; J. Bunbury, C. Ludley and A. Graham, 'Giza Geomorphological Report' in Lehner, Kamal and Tavares (eds), GOP 3, 158–165, pls 37–42; Lutley and Bunbury, *Egyptian Archaeology* 32 (2008), 3–5.

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⁴⁹ J. Assmann, *Ägypten – Theologie und Frömmigkeit einer frühen Hochkultur* (Stuttgart 1984); L. Gablin, 'Private Religion', in T. Wilkinson (ed.), *The Egyptian World* (London and New York, 2010), 325–339; and J. Baines 'Society, Morality and Religious Practice', in B. E. Shafer (ed.), *Religion in Ancient Egypt: gods, myths and personal practice* (London 1991), 123–200.

⁵⁰ Selim Hassan, *Excavations at Giza IV* (Cairo, 1943), 35–42, 49–50; G. Reisner, *Mycerinus, The Temples of the Third Pyramid at Giza* (Cambridge, MA, 1931), 34–53; Abdel-Aziz Saleh, 'Excavations around Mycerinus pyramid complex', *MDAIK* 30 (1974), 131–154.

⁵¹ W. M. F. Petrie, *Illahun, Kahun and Gurob* (London 1891), but see O'Connor's discussion of the symbolic role of elite houses D. O'Connor, 'The Elite Houses of Kahun', in J. Phillips (ed.), *Ancient Egypt, the Aegean, and the Near East; studies in honour of Martha Rhoads Bell II* (London 1998), 389–400.

⁵² A. G McDowell, *Jurisdiction in the Workmen's Community of Deir el-Medîna* (EU 5; Leiden 1990); B. Gunn, 'A sixth dynasty letter from Saqqara', *ASAE* 25 (1925), 242–255,

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⁶⁰ Lacovara, *The New Kingdom Royal City*, 17.

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⁶³ J. Berlandini, 'La pyramide "ruinée" de Sakkara-Nord et le roi Ikaouhor-Menkaouhor', *RdE* 31 (1979), 3–28; J. Yoyotte, 'Le bassin de Djâroukha', *Kêmi* 15 (1959), 23–33. For the *ra-she* as a storage and delivery area around a harbour, R. Stadelmann, 'La ville de pyramide à l'Antien

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⁶⁴ Lehner, *MDAIK* 41 (1985), 133–136 and graphically shown in M. Lehner, *The Complete Pyramids* (London 1997), figure on pages 230–231.

⁶⁵ The eastern settlement in the cultivation was confirmed by subsequent work see El-Sanussi and Jones, *MDAIK* 53 (1997) 241–253, and Lehner, *JARCE* 39 (2002), 27–74. The inferred desert edge settlement was located in 1988 and is the subject of the present article. For the identification of the Heit el-Ghurab settlement with the 'Southern Tjeniu of Khafre' see M. Lehner, 'City on Edge: Gateways to Giza South' Dispatch 1_2011ii17_ML (AERA: GPMP Reports on file).

⁶⁶ Kemp, *Anatomy*, 188–190, fig 66.

⁶⁷ Heindl estimates a total of 5,088,000 bricks for the total four sets of galleries. G. Heindl, *Methods of reconstructing the worker's house 'Gallery III-4' in the workmen's settlement south of the Wall of the Crow in Giza* (GOP, Boston forthcoming).

⁶⁸ Lehner, in *AERAGRAM* 7.1 (2004), 14–15.

⁶⁹ Lehner in Lehner and Wetterstrom (eds), *Giza Reports* 1, 46–47. Parts of the site may have functioned later into the fifth dynasty (John Nolan, personal communication).

⁷⁰ For evidence of a closed community of important scribes connected with the vizier's office and the royal residence see Nolan and Pavlick, in *AERAGRAM* 9.1 (2008), 2–4, and Nolan, *Mud Sealings*, 323–382.

⁷¹ K. Bard, 'Royal Cities and Cult Centers, Administrative Towns, and Workmen's Settlements in Ancient Egypt' in J. Marcus and J. A. Sabloff (eds), *The Ancient City. New Perspectives on urbanism in the Old and New World* (Santa Fe 2008), 169.

⁷² W. Helck, 'Bemerkungen zu den Pyramidenstädten im Alten Reich', *MDAIK* 15 (1957), 91–111; R. Stadelmann 'La ville de pyramide à l'Ancien Empire', *RdE* 33 (1981), 67–77; Reisner, *Mycerinus*, 48; Bietak, in Weeks (ed.), *Egyptology and the Social Sciences*, 97–144.

⁷³ Bietak, in Weeks (ed.), *Egyptology and the Social Sciences*, 104–105, 130.

⁷⁴ Stadelmann, *RdE* 33 (1981), 67–77; Stadelmann 'Pyramidenstadte' in *LÄ* 1983, 9–14. Bussmann considers that the specialised function of pyramid settlements sets them apart from other Egyptian towns, R. Bussmann, 'Siedlungen im Kontext der Pyramiden des Alten Reiches', *MDAIK* 60 (2004), 39.

⁷⁵ Bussmann, *MDAIK* 60, 34–37.

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⁷⁷ These various elements are concisely summarised by Lehner in M. Lehner, 'Giza. A Contextual Approach to the Pyramids', *Archiv für Orientforschung* 32 (1985), 136–158, especially pages 154–158.

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⁷⁹ W. M. F. Petrie *The pyramids and temples of Gizeh* (London 1883); N. Conard and M. Lehner, 'The 1988/1989 Excavation of Petrie's "Workmen's Barracks" at Giza', *JARCE* 38 (2001), 21–60.

⁸⁰ Reisner, *Mycerinus*, 34–53.

⁸¹ Hassan *Excavation at Giza IV*; M. Lehner, M. Kamel and A. Tavares, 'The Khentkawes Town (KKT)', in Lehner, Kamel and Tavares (eds), *GOP* 2, 11–16; M. Lehner, M. Kamel and A. Tavares, 'The Khentkawes Town (KKT)', in Lehner, Kamel and Tavares (eds), *GOP* 3, 7–12; M. Lehner, M. Kamel and A. Tavares, 'The Khentkawes Town (KKT)', in Lehner, Kamel and Tavares (eds), *GOP* 4, 9–46.

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⁸⁶ Bard, in Marcus and Sabloff (eds), *The Ancient City*, 172.

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⁸⁹ J. Shaw, 'Who built the Pyramids?', *Harvard Magazine* (July/ August, 2003), 42–49, 99.

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⁹¹ Kemp, *Anatomy*, 191–192.

⁹² M. Lehner, ‘Fractal House of Pharaoh: Ancient Egypt as a complex adaptive system, a trial formulation’, in T. Kohler and G. Gumerman (eds), *Dynamics in Human and Primate Societies. Agent-based Modeling of Social and Spatial Processes*. (Oxford 2000), 275–353.

An Old Kingdom bakery at Sheikh Said South: preliminary report on the pottery corpus

Stefanie Vereecken

Since 2002, the Mission of Leuven University has been conducting archaeological fieldwork at Deir el-Bersha in order to understand the spatial organisation of the cemeteries at the site, which date mainly to the Old Kingdom, the First Intermediate Period and the Middle Kingdom. As it is often referred to in tomb inscriptions, an important segment of those buried at Deir el-Bersha originated in the nearby town of Ashmunein/Hermopolis (Fig. 1). Nevertheless it is often assumed that some inhabitants of this town, at least during the late Old Kingdom, chose to be buried not at Deir el-Bersha, but at Sheikh Said, where a large elite cemetery exists, as well as a number of others about which there is hardly any published information. In order to be able to compare the use of the cemeteries at the two sites, a surface survey was undertaken in 2007 at Sheikh Said.¹ In the course of this survey, several unexpected interesting areas with a high concentration of artefacts were discovered.

The area that will form the focus of this article is situated on the extreme southern fringe of the hill that leads to the elite Old Kingdom tombs. On this spot, a modern track into the Wadi Zabayda cuts through the hill, leaving a roughly vertical edge which revealed in its lower part small sections of possibly *in situ* strata with numerous inclusions of charcoal and ceramics. For that reason trial trenches were opened during the 2008 and 2009 campaign just north of the track. In all three sectors the same sequence in stratigraphy could be observed, divisible into four phases. The top soil (phase 4) consists of a thick level of a densely mixed greyish/brownish matrix filled with calcite alabaster chips, vase drills and other lithic artefacts, bones and large amounts of ceramics. This material includes pottery from various phases, although mostly of New Kingdom and Third Intermediate

Period date. Underneath, two consecutive depositions of light yellow wadi sediment with small stone inclusions were located which contained hardly any archaeological remains (phase 2). The fact that these natural deposits differ in texture, and that a clear horizon separates them, suggests two successive periods of wadi activity. Also four tombs were discovered of which at least two could be dated to the New Kingdom (phase 3).

In the lowest part of all three sectors a continuous stratigraphy was revealed (phase 1) with the majority of the finds consisting of pottery sherds dating to the Old Kingdom. During the 2009 campaign a first analysis was undertaken of the ceramic material of which the results will be described in the following paragraphs.

The main type of pottery that can be distinguished in the assemblage is the so-called *bdj* bread mould² (type BM1), which can be divided into various sub-types, according to the different shapes and finishing of the bases (Fig. 2).

The predominant BM1.A type shows a rounded bottom with fingerprints clearly visible all over it. The second type (BM1.B) shows a very distinctive conical bottom and a more regularly made upper side of the body. Both types are well smoothed on the inside, but left without any further surface treatment on the outside. Their average height is around 16 cm and the rim diameter lies between 18–21 cm. The bread moulds are characterised by a flaring shape and a very prominent, sharp ‘ring’ around the base. Such ‘rings’ occur on fifth and sixth dynasty bread moulds,³ but the Sheikh Said examples differ by their concave transition between base and ‘ring’. Furthermore, the base tends to be deeper. Similar sharp ‘rings’ are found on late third dynasty bread moulds from Elephantine,⁴ but the best parallels are the mid-fourth dynasty examples from the workmen's settlement at Giza.⁵ All of the latter are similarly shaped over a hump and have both sharp base ‘rings’ and deep bottom cones.

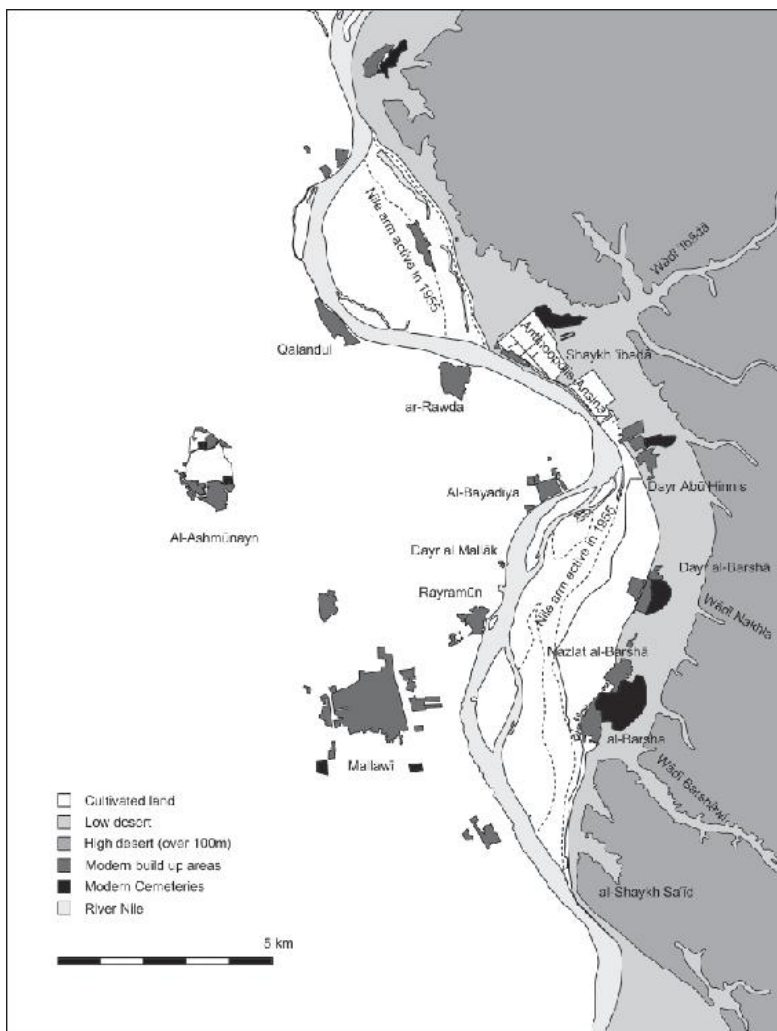


Fig. 1: Plan of the region of Ashmunein, Deir el-Bersha and Sheikh Said (plan Chr. Peeters)

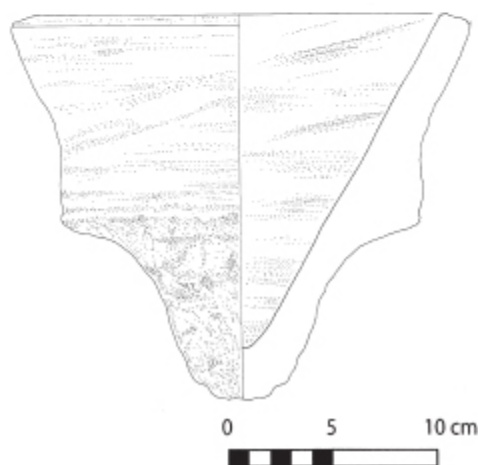
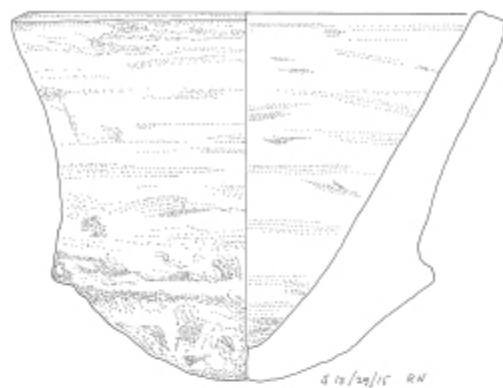


Fig. 2: bDA bread moulds type BM1 a) round-based BM1.A b) conical-based BM1.B

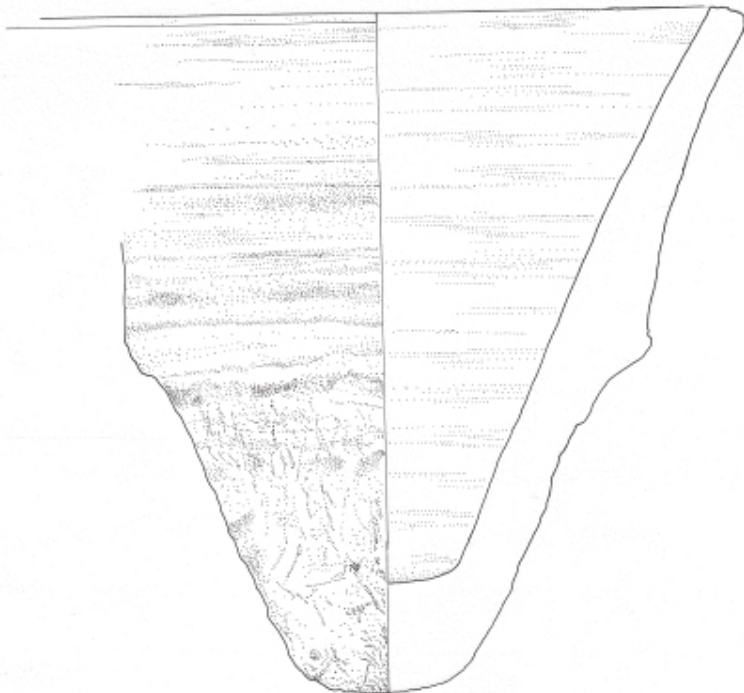


Fig. 3: Bread mould type BM2

The parallelism between Sheikh Said and Giza is also confirmed in the next type of bread mould (type BM2) which is much larger than the BM1 type; complete examples show a rim diameter and height up to 33 cm (Fig. 3). These large types of bread moulds were until now only known from Giza, where they were found *in situ* in the bakery of the workmen's village.⁶ A specific feature of these large bread moulds is the flattened interior of the base. This part easily becomes detached and is quite often found separately from the other part of the vessel. The upper part of the BM2 is quite regular, showing parallel horizontal bands probably from the finishing of the exterior on a turning device.

Besides the *bds* moulds, many fragments of bread trays were also discovered (Fig. 4). Both round and oval shapes occur and, on the basis of the different shapes and sizes, four different types are distinguishable, similar to types discovered at Giza.⁷

The first type of bread tray (type BT1) is small and characterised by its very rough appearance and sloping rim. The diameter lies around 21cm and the height goes up to 3.5 cm. Many of these trays have pot marks on the inside. The second type of bread tray (type BT2) is a bigger tray with a significant rectangular ledge rim. It has a circular shape with a maximum diameter around 30 cm. The rectangular rim is 2 to 3 cm wide and up to 3 cm in height. The inside of these trays is well smoothed with a layer of self

slip on the inside. The same finish can be observed on the third type of bread tray (type BT3) which is an oval shaped platter, with higher walls up to 6.5–8 cms. Of the last type of bread tray (type BT4), only one example could be reconstructed so far. It is oval in shape with a maximum diameter of 19.5 cm and walls up to 9.5 cm.

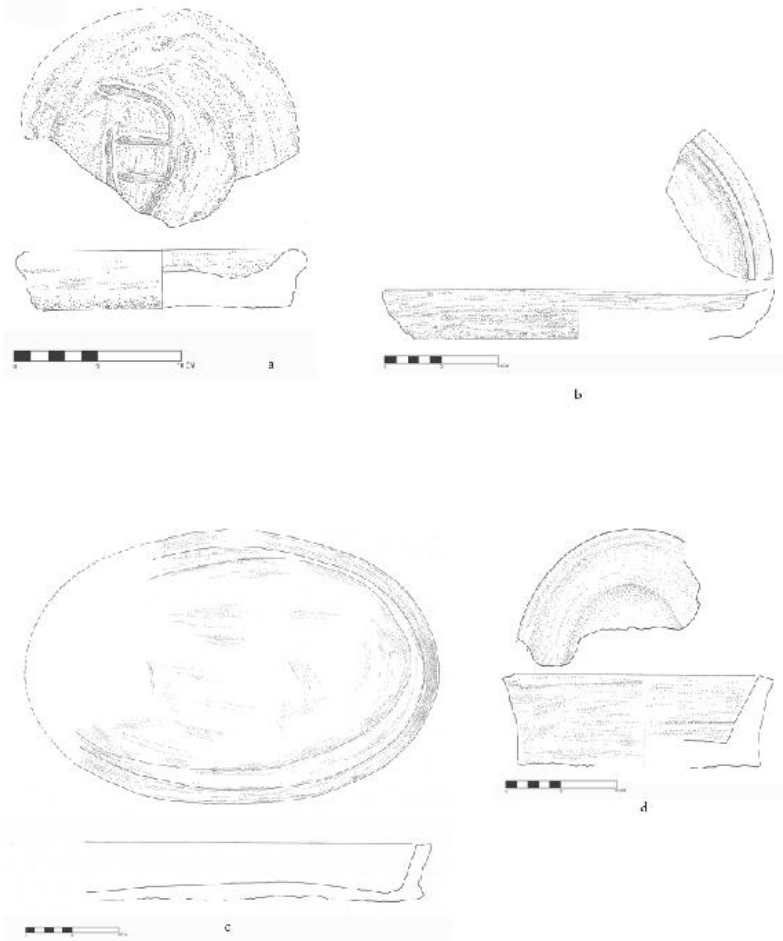


Fig. 4: Bread trays a) BT1 b) BT2 c) BT3 d) BT4

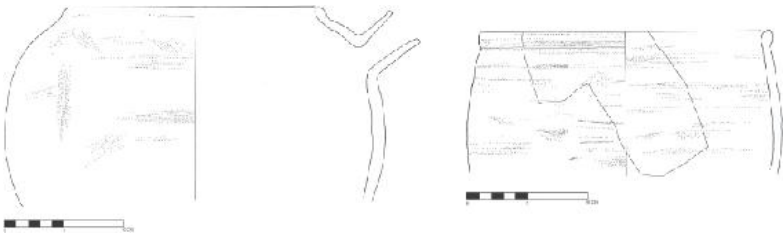


Fig. 5: Vats for preparation of dough

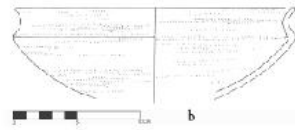
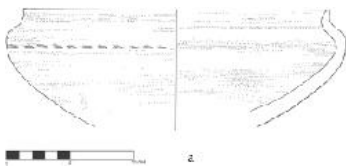


Fig. 6: Maidum bowls: a) round-shouldered bowl b) sharp-shouldered bowl

All the bread moulds and bread trays are made of a very remarkable fabric. At first sight, it seems to be a regular Nile C, according to the Vienna system. Medium and large plant remains and sand inclusions are observable, leaving the breaks of the sherds with a very rough appearance. However, small and larger white fragments of calcite alabaster fragments are also clearly visible in the breaks, often even at the surface of the vessels, which is unusual for a regular Nile C fabric. These fragments are well mixed through the paste and were clearly added on purpose by the potter and so must be considered as temper. Although petrographic confirmation is still needed, it seems logical that the calcite alabaster should come from the Maghara Abu Aziz quarry and so is probably residue of stone production activity that must have taken place in the vicinity. Of course, this also implies that the pottery must have been locally made as it seems that the paste was mixed at the site itself.

Although only three trial trenches were opened, the amount of pottery related to the production of bread was very high. It seems that most of the excavated area was a rubbish heap related to a food production facility that must have existed nearby, as many of these pottery fragments were interspersed with large quantities of animal and vegetal remains,⁸ probably used for consumption which frequently also seemed to have been burned. Evidence for this is found in the form of ash layers and more localised fire spots where small but apparently intense fires led to the remains being charred. Perhaps the fires should be interpreted as a measure to reduce nuisance. This in turn suggests that there were habitations nearby.

However, two parts of the excavated area show that besides discarding waste, also other activities have taken place on this spot. Two purposely made circular fireplaces were found, built out of *muna* with slightly elevated edges. It is very unlikely that these were intended for burning rubbish, but rather they must have served for heating something. This impression is strengthened by the fact that a series of depressions were found at the edge. Although not certain, it can be suggested that the bread moulds were piled up on this fireplace for heating, and that the depressions served for keeping the pots in place, as we know from various tomb scenes of the Old Kingdom.⁹ Also a small part of a floor was found with a series of shallow holes. Considering that this floor was made in the bakery area, it is very likely that the holes were emplacements in which hot bread moulds could have been

placed before being filled with dough. During the last days of the 2009 campaign, a thick wall, made out of large stones with a precise north–south orientation was found. It is most likely that this structure is connected to the fireplaces and forms part of the bakery.

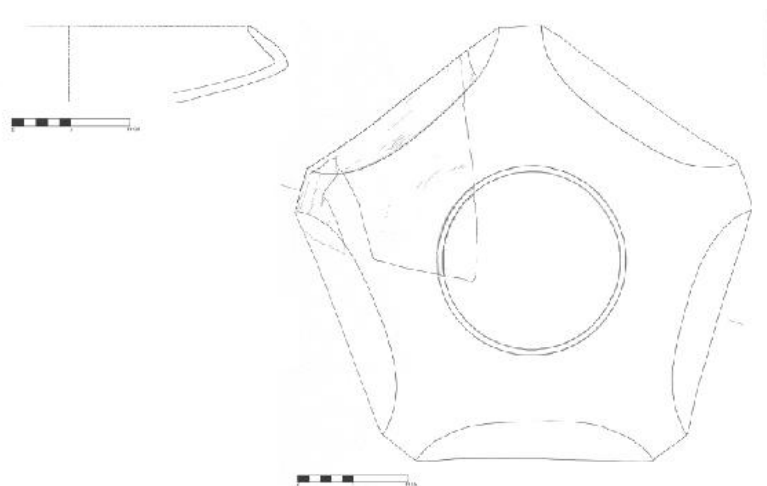


Fig. 7: Fragment and reconstruction of pentagonal bowl with lobes imitating a stone vessel

A final element that confirms the production of bread at Sheikh Said comes in fragments of large vats (Fig. 5). These vats come also in different sizes, some of them spouted. These sizeable vessels used for the preparation of dough¹⁰ were not easily transported, and so corroborate the production of bread at the site itself.

As a whole, this context reminds us of the much better preserved bakeries found in the workmen's settlement at Giza where the same types of pottery and the same type of food disposal was found. These two bakeries are fairly small, rectangular, stone-built chambers containing, in one corner of the room, two vats for mixing dough and, along one of the long sides, two rows of depression in which bread moulds could have been placed.

Besides pottery related to the production of bread, many other types of pottery related to the serving or storage of food could also be identified at Sheikh Said and which were also found in the vicinity of the bakeries at Giza.

Several fragments of Maidum bowls were spread amongst the bread moulds and trays, but unfortunately not many complete vessels could be reconstructed and the shape of the bottom is generally missing. But nevertheless, it is clear that examples of both the sharp-shouldered and the round-shouldered types occur (Fig. 6). The round-shouldered ones have deep shapes as was already common before the fourth dynasty. We also have some fragments belonging to sharp-shouldered bowls with the maximum

diameter at the shoulder, a typical feature of Maidum bowls of the fourth and fifth dynasty.¹¹ This chronological position is corroborated by the fact that the rims of the Maidum bowls are never wider than the shoulders. There is a close resemblance with early and mid-fourth dynasty bowls at el-Tarif¹² and el-Kab,¹³ but the best parallels are from Giza¹⁴ and Elephantine¹⁵ where both round-shouldered and sharp-shouldered Maidum-bowls are also attested.

The majority of the Maidum bowls are made in a fine or coarser Nile silt (Nile A-B1-B2), but we did find some examples made out of Marl A1, according to the Vienna system. We can distinguish two varieties in the way the Maidum bowls were produced and finished. Some bowls are roughly made with quite thick walls and have an uneven finishing. One of them shows even rope impressions. Next to these, we have the fine Maidum bowls with very thin walls, only 3 mm thick and a high quality of finish all over the surface. The fabric of the low quality Maidum bowls is Nile silt where the same kind of calcite alabaster tempering is mixed through the paste but in much smaller fragments. The high quality Maidum bowls, on the other hand, are not made in the local calcite alabaster tempered fabric. For their production, a fine Nile A or Marl A fabric was used and this pottery is to be considered as very high quality and probably an elite import.

The presence of an elite is also attested by the following remarkable find. A sherd in a very fine micaceous Nile silt was discovered which, after careful analysis, could be reconstructed into a pentagonal bowl with lobes (Fig. 7). This shape is an imitation of a well known Old Kingdom stone vessel found in elite tombs.¹⁶ Only two other fragmentary pottery examples have been found, namely one in the so-called Valley temple of Sneferu at Dahshur¹⁷ and another in settlement debris at Giza.¹⁸

Limited in number but chronologically very significant are the shallow bowls with an internal ledge-rim and flat bottom (Fig. 8). All of them are made in a coarse Nile B2 fabric, according to the Vienna system, and left uncoated. This type of pottery is known from the beginning of the first dynasty and their typo-chronological evolution is well documented from Elephantine, characterised by the broadening over time of the internal rim while the vessel shapes tend to become more shallow.¹⁹ The examples from Sheikh Said can be compared with bowls found at Giza,²⁰ characterised by their shallow shape and broad internal ledge-rim. This type of bowl is to be accepted as the next step in the typo-chronological evolution attested at Elephantine for the period up to the early fourth dynasty and places our shapes into the early to mid-fourth dynasty.

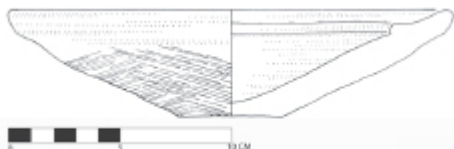


Fig. 8: Bowls with internal ledge-rim and flat bottom

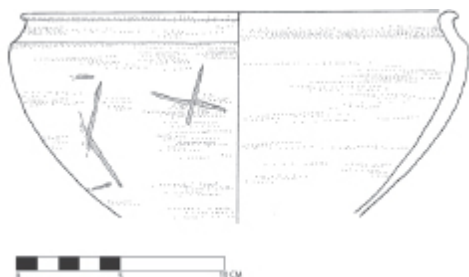


Fig. 9: White carinated bowl

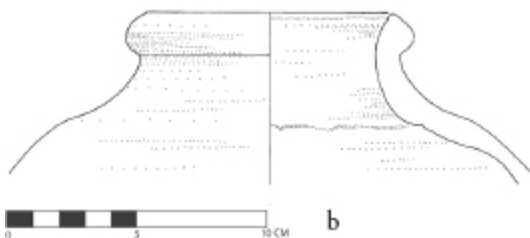
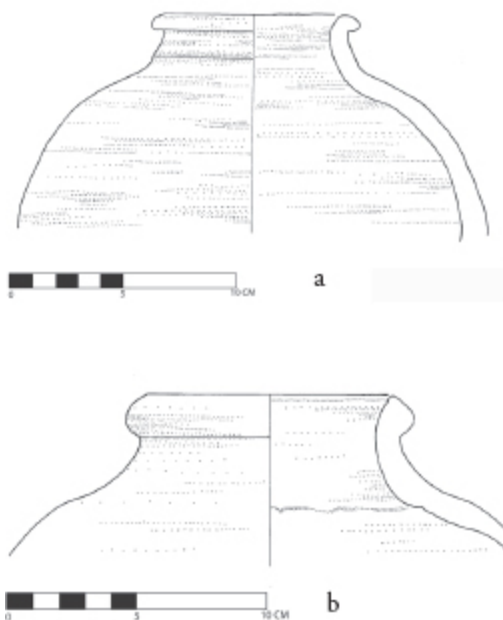


Fig. 10: Storage jars: a) red slipped jar b) white slipped jar

Another remarkable pottery type that could be recognised in the assemblage is the so called ‘white carinated bowl’ (Fig. 9). This again is a pottery type that until now was only known from Giza.²¹ Its hemispherical shape reminds us of the Maidum bowls, but the surface treatment and finishing is different. The bowls have a white slip/wash applied inside and out, and bear deep scraping marks on the outside of the base. The shaping of the rim takes two forms: some of the bowls show a rounded rim, others have a more triangular variation.

As for the use of these vessels, it is generally accepted that Maidum bowls were used for serving food and liquids, as depicted in many Old Kingdom scenes. They were part of the standard range of pottery in use during the Old

Kingdom in settlements, temples and workshops.²² The white carinated bowls were most likely also used in food preparation, but their different surface treatment makes them less suited for liquids.²³

In ancient Egypt, bread and beer production were intimately linked, so one should expect many fragments of beer jars in the assemblage but only a few fragments were found. The people inhabiting the site must nevertheless have included the habitual beer among their rations. The almost complete absence of beer jar fragments suggests that the brewery must have been located at some distance from the part we excavated.

Nevertheless quite a large number of fragments of other jar types were recovered, which could be partially reconstructed. These storage jars come in two main types: the first type consists of red-slipped jars which are mostly made from a variety of Nile fabrics (Nile A-B1-B2) (Fig. 10a). Characteristic for these jars are their high shoulders and the conical base on which scraping marks are left clearly visible. The shaping and finishing of the neck and rim is also very apparent with the onset of the neck left uneven. The second type of jar consists of white/light orange-slipped vessels (Fig. 10b). The rim and neck of these is finished in a different way as the rim has a more rectangular shape and there is a more regular transition from neck to body.

All these jars must have been used as containers for food storage, as many clay stoppers and ropes were found that could have been used to close them. Several of the clay stoppers have seal impressions, probably testifying to the presence of a group of administrators. One seal has the impression of a cartouche ending in a bird-like sign which perhaps reads *w*, in which case the royal name must have been either that of Snofru or Khufu. Another seal bears *mddw*. This is the Horus name of Khufu, confirming the impression already gained from the pottery that the excavated area was used in the early fourth dynasty.²⁴

Conclusion

During the 2008–2009 campaign the first traces of a food installation facility with its rubbish heap and bakery were discovered at Sheikh Said, clearly dating to the early fourth dynasty. The majority of the finds consists of pottery that is related to the production of bread, such as bread moulds, bread trays and vats, but pottery for the preparation, serving and storage of liquids and food was also found. The pottery assemblage as a whole shows a remarkable similarity with the assemblage discovered at the workmen's village in Giza, corroborated by the appearance of the large *bds* bread mould and the white carinated bowl. But it should be made clear that the majority of the pottery must have been locally produced as a white calcite alabaster tempering, coming from the nearby quarry at Maghara Abu Aziz, appears in

the majority of the sherds. On the other hand some sherds of high quality Maidum bowls were found and so must be considered as elite imports as they represent a non-local specialised pottery production.

¹ For a full description and results of the 2007 survey, see H. Willems et al., 'An Industrial Site at al-Shaykh Sa'd/Wādī Zabayda', *Ä&L* 19 (2009), 1–39.

² According to Jaquet-Gordon's typology type 1A, see H. Jaquet-Gordon, 'Tentative Typology of Egyptian Bread Moulds,' in Do. Arnold (ed.), *Studien zur altägyptischen Keramik* (Mainz am Rhein 1981), 11–12 (fig. 2).

³ D. Faltings, *Die Keramik der Lebensmittelproduktion im Alten Reich. Ikonographie und Archäologie eines Gebrauchsartikels* (SAGA 14; Heidelberg 1998), 130–132 (fig. 9a, nos. 20–24).

⁴ S. J. Seidlmayer, 'Die staatliche Anlage der 3. Dynastie in der Nordweststadt von Elephantine. Archäologische und historische Probleme,' in M. Bietak (ed.), *Haus und Palast im alten Ägypten. Internationales Symposium 8. bis 11. April 1992 in Kairo* (ÖAK. Denkschriften XIV; Wien 1996), p. 201, Abb. 4. D. Raue, 'Ägyptische und Nubische Keramik der 1.–4. Dynastie,' in W. Kaiser et al., 'Stadt und Tempel von Elephantine. 25./26./27. Grabungsbericht,' *MDAIK* 55 (1999), Abb. 36,9.

⁵ K. Kromer, *Österreichische Ausgrabungen in Giseh (VAR), Vorbericht über die Frühjahrskampagne 1971* (SAWW 279, Bd. 5; Wien 1972), pl.22:6. K. Kromer, *Siedlungsfunde aus dem frühen Alten Reich in Giseh. Österreichische Ausgrabungen 1971–1975* (ÖAW. Denkschr.d. Gesamtk., 136; Wien 1978), pl. 20:4. A. Wodzińska, 'Preliminary Report on the Ceramics,' in M. Lehner and W. Wetterstrom (eds), *Project History, Survey, Ceramics, and the Main Street and Gallery III.4 Operations, Giza Reports. The Giza Plateau Mapping Project I* (Boston 2007), 298 and fig. 11.38. F2B.

⁶ Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports I*, 298 and fig. 11.38. F2C. J. Nolan, 'Tales from the Crypt: the 1999 Season,' *AERAGRAM* 3, no.1 (1999), 1–13.

⁷ Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports I*, 298, F1; fig. 11.36–37 (F1A, F1C); Z. Hawass and A. Senussi, *Old Kingdom Pottery from Giza* (Cairo 2008), 237 (126); 191; 237.

⁸ For a full description of the analysis on the plant and animal remains, see Willems et al., *Ä&L* 19 (2009), 23–28.

⁹ Faltings, *Keramik der Lebensmittelproduktion*, Dok. 1–29.

¹⁰ Faltings, *Keramik der Lebensmittelproduktion*, 115–121.

¹¹ L. Op De Beeck, 'Possibilities and Restrictions for the Use of Maidum-Bowls as Chronological Indicators', *CCE* 7 (2004), 260, 268.

¹² B. Ginter et al., *Frühe Keramik und Kleinfunde aus el-Târif* (AV 40; Mainz am Rhein 1998), 81, Abb. 41, 5–6.

¹³ Op De Beeck, *CCE* 7 (2004), 250, fig. 3,31 and 3,33.,

- ¹⁴ Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports* I, fig. 11.19 CD6A (A1); fig. 11.20.CD6B (B1); fig. 11.21CD7 (B3).
- ¹⁵ Raue, *MDAIK* 55 (1999), 184, Abb. 39,1 and 2; Abb. 40, 1, 2, 6.
- ¹⁶ For example, Berkeley 6-19784 (Do. Arnold (ed.), *Egyptian Art in the Age of the Pyramids* (New York 1999), 310–311 (99)).
- ¹⁷ W. K. Simpson, in A. Fakhry, *The Monuments of Sneferu at Dahshur* II part II (Cairo 1961), 118.
- ¹⁸ Kromer, *Siedlungsfunde*, 63; Taf. 25, fig. 4.
- ¹⁹ Raue, *MDAIK* 55 (1999), 183 ('tieferer Ansatz der Innenleiste'). A. Op de Beeck, S. Hendrickx, 'Deir al-Barsha Pottery Survey', *BIFAO* 105, in press.
- ²⁰ Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports* I, 291–292, and fig. 11.6 and 11.21: CD7.
- ²¹ Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports* I, 299–300 and fig. 11.6 & 11.22: CD7.
- ²² S. Hendrickx, D. Faltings, L. Op de Beeck, D. Raue, C. Michiels, 'Milk, Beer and Bread Technology during the Early Dynastic Period', *MDAIK* 58 (2002). 277.
- ²³ Wodzińska, in Lehner and Wetterstrom (eds), *Giza Reports* I, 300.
- ²⁴ For further reading on the seal impressions of Sheikh Said, see Willems et al., *Ä&L* 19 (2009), 22–23.

Why was the Fifth Dynasty cemetery founded at Abusir?

Miroslav Verner and Vladimír Brůna

Since the mid-19th century when Auguste Mariette commenced his excavation in Saqqara, the archaeological exploration of the Memphite necropolis has made remarkable progress: most of the royal funerary monuments and a great number of private tombs dating from different periods of ancient Egyptian history have been unearthed and thoroughly examined and, consequently, a great deal of invaluable archaeological information has been gathered. Yet many questions still remain to be answered, one of them concerning the reasons behind the foundation of the royal cemeteries at different times and in different sites.¹

There can be no doubt that, behind the decision made by a king about the site for the construction of his pyramid complex, there were concrete reasons which might have been of a very different character ranging from the vicinity of an abundant limestone quarry to family ties. In some cases it might have been a combination of several reasons. In this brief paper we shall discuss the reasons concerning the pyramid cemeteries in Giza, Saqqara and Abusir.²

For a long time, archaeologists assumed that Khufu's decision to found a new royal cemetery in Giza was basically influenced by the instability of the ground in Dahshur (as is evident from the problems with building the Bent Pyramid) and the convenient natural conditions offered by Giza: a stable limestone bedrock and an easily accessible limestone quarry. Moreover, the planning of the royal cemetery in Giza shows some new, deeply intertwined features. At the time of Khufu, the cemetery was designed as a single, unified plan reflecting a basic arrangement of the ruling elite in the Egyptian state at that time, with a central position being occupied by the king. However, 'much more can be said'.

Archaeological explorations carried out in Giza by Mark Lehner showed that not only the social stratification of the then ruling elite played a significant role in organizing the royal cemetery at Giza, but his observations

and measurements also indicate that the builders of the Giza pyramids were also deeply influenced by the solar cult.³

Hans Goedicke drew attention to the same aspect of the cemetery in Giza, namely, the influence of the sun cult on the position of the royal monuments at that site.⁴ He pointed out that the pyramids of Khufu, Khafre and Menkaure were arranged in such a way that their south-east corners lie on a line aiming at the sun temple in Heliopolis (Fig. 1). Goedicke's suggestion was resolutely rejected by John Romer in his work about the Great Pyramid. Romer ironically remarked: 'Checked with modern surveying equipment on the ground in Egypt, those inky lines drawn across a survey map, or for that matter a combination of astronomical charts and maps of the Giza plateau, hide such errors in them, such a score of yards and miles, that using similarly loose parameters, the Great Pyramid may equally well be aligned with the New York subway system and entire galaxies of stars'.⁵



Fig. 1: Giza pyramids seen from the south. (photo Milan Zemina)

Possibly inspired by some of Hans Goedicke's ideas, David Jeffreys examined the chronological development of the Memphite necropolis and the fluctuation in the location of pyramids between the religio-political centres in Heliopolis and Memphis during the Old Kingdom.⁶ He started out from two justified presumptions:

- 1) a sun temple with an obelisk had already stood in Heliopolis during the Old Kingdom

- 2) at the time of the pyramid builders, visibility in the Nile valley was very good and it was possible to view the pyramids on the edge of western desert plateau from Heliopolis. However, not *all* the pyramids could be seen, but only those between Abu Rawash and Abu Ghurab since, according to Jeffreys, the rocky massif of Moqattam and the rock promontory on which stands the Citadel today obscured the view of the pyramids south of Abu Ghurab, that is, at Abusir and farther to the south.

Moreover, Jeffreys concluded that the kings who built their pyramids in Maidum, Dahshur and Saqqara showed by the location of their funerary monuments no preference for the sun cult. This list also includes the last king of the fourth dynasty, Shepseskaf, who, by building his tomb in south Saqqara and in the shape of a sarcophagus, wanted to distance himself politically and geographically from Heliopolis and the solar cult. His successor Userkaf and the subsequent kings of the Fifth Dynasty, however, were especially interested in the sun cult.

Following Jeffreys' conclusions, Stephen Quirke suggested that in the Old Kingdom royal activities oscillated between two political foci: Heliopolis as a centre for the cult of Re, and Memphis as a centre for the cult of Ptah.⁷ Quirke concluded, among other things, that the kings of the Fifth Dynasty built their sun temples near (north of) Abu Ghurab because their pyramids already lay beyond the visual connection with Heliopolis. Thus, the sun temples represented a 'sun channel', a relay station transmitting sun beams from Heliopolis to the royal tomb.

The conclusions by Jeffreys, Quirke and Romer just cited are important and deserve attention. Owing to serious consequences of these conclusions for Egyptian history and archaeology, we decided to test them by a series of geodetical and cartographic measurements and reconstructions pertaining to the alignment of pyramids in Giza and Abusir⁸ and their optical connection with Heliopolis and visual connections between the sun temples of Userkaf and Niuserre and the sun temple in Heliopolis.



Fig. 2: Obelisk of Senwosret I. in Heliopolis. (photo Jaromír Krejčí)

These measurements were carried out by Vladimír Brůna, a specialist in geoinformatics from the University in Ústí nad Labem in North Bohemia. The work was complicated by difficulties concerning our access to the relevant Egyptian cartographic documents. There were also some problems with archaeological data. Therefore, for the testing were used photogrammetric maps of Giza, Abusir and Saqqara 1:5000 published by the Egyptian Ministry of Housing, the map of East Cairo 1:15,000, and the Google Earth program. Some measurements were carried out by means of a special GPS Trimble Juno. In the measurements and calculations the curvature of the Earth's surface was taken into consideration, and also the premise that, since the fourth dynasty, the sun temple in Heliopolis was provided with an obelisk at least about 15 m tall (see the text below; [Fig. 2](#)).

In the reconstructions no special astronomical programs were used to simulate the position of the stars in the sky in the time of the pyramid builders. These programs were avoided, owing to the commonly known problems relating to the reconstruction of the absolute chronology of Egypt in the third millennium BC.⁹

The results of the measurements were quite surprising: the south-east corners of the pyramids of Khufu and Khafre lie indeed on a line directed towards Heliopolis and deviating by only 1 m to the north from the obelisk of Senwosret I! Considering the distance – approaching 24 kilometres – between the Giza pyramids and Heliopolis, the accuracy of the ancient surveyors is astonishing. We note with interest that the south-east corner of Menkaure's pyramid falls outside the scope of the line by several metres¹⁰ (Fig. 3, Plate 8).

In Abusir, the conditions for measurements were more difficult than in Giza. As a matter of fact, Ludwig Borchardt in his excavations in Abusir at the beginning of the last century used to uncover and measure only the eastern wall of the examined pyramids. Fortunately, the Egyptian Supreme Council of Antiquities has recently cleared and reconstructed the entrance to Sahure's pyramid. During the clearance there appeared in position, on both sides of the entrance, the lowest layer of the casing blocks of the pyramid's northern wall. Thus, on the basis of the knowledge of the north-south axis and the base line of the northern wall of the pyramid, the position of the north-west corner of the pyramid could be calculated. The precise position of the north-west corner of Neferefre's pyramid was established during recent explorations in the monument by the Czech team.¹¹ The measurements proved that the Abusir pyramids – here the north-west corners – also lie on a line directed towards Heliopolis. (Fig. 4a, b) The line crosses in Heliopolis the 'oval mound' (and the area of the hypothetical sun temple) but misses the obelisk of Senwosret I by 200 m. Very probably, the deviation (Plate 11) is due to some minor errors both by ancient surveyors (in the hypothetical temporary surveying station on the Citadel Hill ?) and in our precise determination of the corners of the Abusir pyramids.¹²

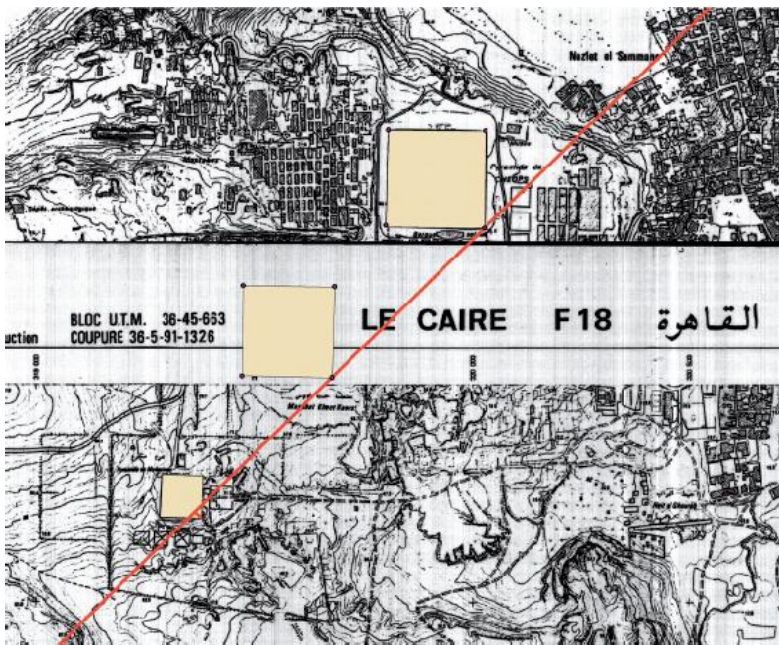


Fig. 3: Line linking south-east corners of the Giza pyramids with Heliopolis. The measuring is based on the 1 : 5000 maps (Giza). For measurements based on Google Earth see Plate 8

The orientation of the Abusir pyramids towards Heliopolis is the more surprising if we realise that there is no visual connection between the two sites, owing to the hill in east Cairo on which stands the Citadel. (Plate 9) How did the ancient surveyors and builders of the Abusir pyramids overcome this hilly obstacle? Theoretically, there were two options:

- by means of a temporary surveying station on the top of the Citadel hill;
- by means of a temporary surveying station on the top of a hill behind the Abusir pyramids.

Taking into account the methods used by pyramid builders, the first option is feasible. By a series of measurements, the ancient surveyors could precisely identify on the top of the Citadel hill a place from which the line could be extended to the sun temple in Heliopolis. The work could have been done at night by observing the stars or lighting a fire on the top of the hill or by day by means of mirrors made of a piece of polished copper sheet.

The second option is feasible theoretically, but not in practice. One would have to build a tower more than 100 m tall on top of the highest terrace behind the Abusir pyramids to overcome the aforesaid height of the Citadel to see the sun temple in Heliopolis, and this is an absurdity.

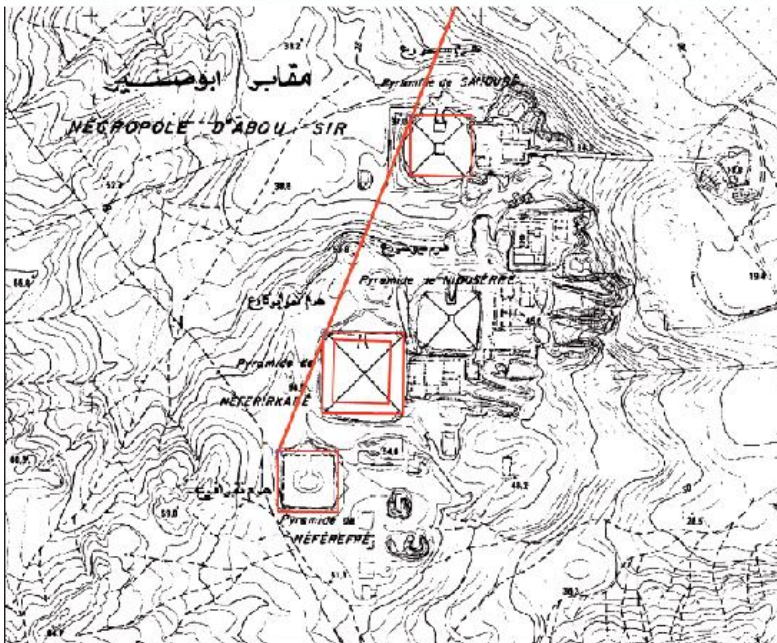


Fig. 4: a) View of the Abusir (in foreground) and Giza (in background) pyramids from the south. (photo Milan Zemina) b) Line linking north-west corners of the Abusir pyramids with Heliopolis – measuring based on the maps 1 : 5000 (Abusir) and 1 : 15000 (Heliopolis)

Very interesting conclusions resulted from the measurements of the two extant sun temples, those of Userkaf and Niuserre. The earlier of them, that of Userkaf, has not and never did have a visual connection with the sun temple in Heliopolis. (Plate 10) Even after its reconstruction and the erection of an about 20 m high granite obelisk, as suggested by Herbert Ricke,¹³ the excavator of the temple, the visual connection remained obscured by the Citadel hill.

However, the sun temple of Niuserre, only about half a kilometre north of

that of Userkaf, already had a visual connection with Heliopolis because of its 56 m tall obelisk (including its base) in Abu Ghurab. The line aiming at Heliopolis only just misses the northern edge of the Citadel hill. (Plate 10)

Moreover, the measurements showed that the two sun temples lie on a line linking the top of Userkaf's pyramid in Saqqara and that of Khufu's pyramid in Giza. Niuserre's temple lies precisely on the line (Fig. 5a), and Userkaf's deviates (Fig. 5b) from the line by 70 m to the east.¹⁴ The deviation of the temple from the line linking the tops of the pyramids of Userkaf and Khufu is, very probably, due to the configuration of the terrain in Abusir: the temple was built on the top of a hill at the very edge of the desert. To put the temple precisely on the aforesaid line would mean building it in a shallow depression, which would lower its visibility from the Nile valley and increase problems with constructing the causeway.

The results of these measurements raise a number of questions which involve additional facts that lie beyond the limits of this short communication. Let us briefly discuss them.

It is obvious that not only the Giza pyramids, but also the Abusir pyramids of Sahure, Neferirkare and Neferefre lay on a line directed towards the sun temple in Heliopolis. The alignment seems to demonstrate a symbolic link between the pyramids and the sun temple in Heliopolis, and the devotion of the pyramid owners to the sun cult.

The discovery that between the sun temple of Userkaf, the first such temple built in the Memphite necropolis, and the sun temple in Heliopolis, there was no visual connection falsifies Quirke's theory (n. 7 above) that the sun temples functioned as a relay station for transmitting the beams of the sun from the Heliopolis sun temple to the pyramids.

Quite important seems to be the location of the two extant sun temples directly on (Niuserre), or very close to (Userkaf), the line linking the pyramid of Userkaf in Saqqara with the pyramid of Khufu in Giza. To understand the probable reasons for the siting of the two monuments of Userkaf, let us remember the situation at the turn of the Fourth and Fifth Dynasty.¹⁵ Leaving aside the mysterious Thamphthis, the available historical sources indicate that Menkaure was succeeded by two kings, Shepseskaf and Userkaf, whose relation to Menkaure is not quite obvious. Into this somewhat unclear historical context at the turn of the Fourth and Fifth Dynasty also falls the significant position of Khentkaues I and her very unusual title of 'the Mother of Two Kings of Upper and Lower Egypt'. It is important that neither Shepseskaf nor Userkaf incorporated in his name that of the god Re, and both of them built their tombs beyond the Giza cemetery. However, their decisions do not necessarily mean an opposition to the sun cult as some scholars tend to believe.

If Shepseskaf had decided to build his tomb in Giza, probably he would have been obliged to respect the previously mentioned 'Heliopolis line'. His

tomb would then have been built very far in the desert which would have been a very costly and time-consuming undertaking. We have to bear in mind that Shepseskaf had to complete –not least for the sake of the legitimacy of his succession to the throne – the largely unfinished pyramid complex of his predecessor and keep all the logistical background of pyramid building in Giza. These might have been the main reasons why he opted for a relatively modest shape for his own tomb, in a seemingly lonely place in south Saqqara. (Fig. 6) In fact, he built his tomb near the pyramids of Sneferu, the founder of the dynasty. However, it cannot be excluded that the shape of Shepseskaf's tomb might have reflected the king's reluctance to adopt for his tomb the shape of a pyramid, an explicit symbol of royal authority.

In contrast with Shepseskaf, his successor Userkaf apparently regarded himself as a fully legitimate king. He opted for a tomb in the shape of a pyramid and decided, very surprisingly, to build it within Djoser's pyramid complex, on a narrow strip of ground between the north-east corner of the enclosure wall and the eastern wing of the Dry Moat surrounding the area of Djoser's tomb. From the technical point of view, it was a very inconvenient decision: the building site was very restricted and, consequently, the standard plan of the pyramid complex had to be completely changed. The only logical explanation for Userkaf's decision must surely have been to closely associate himself with Djoser's tomb. Userkaf wished to show unity with the legendary founder of the powerful centralised state and once and for all to secure the legitimacy of his own and his descendants' rule.¹⁶

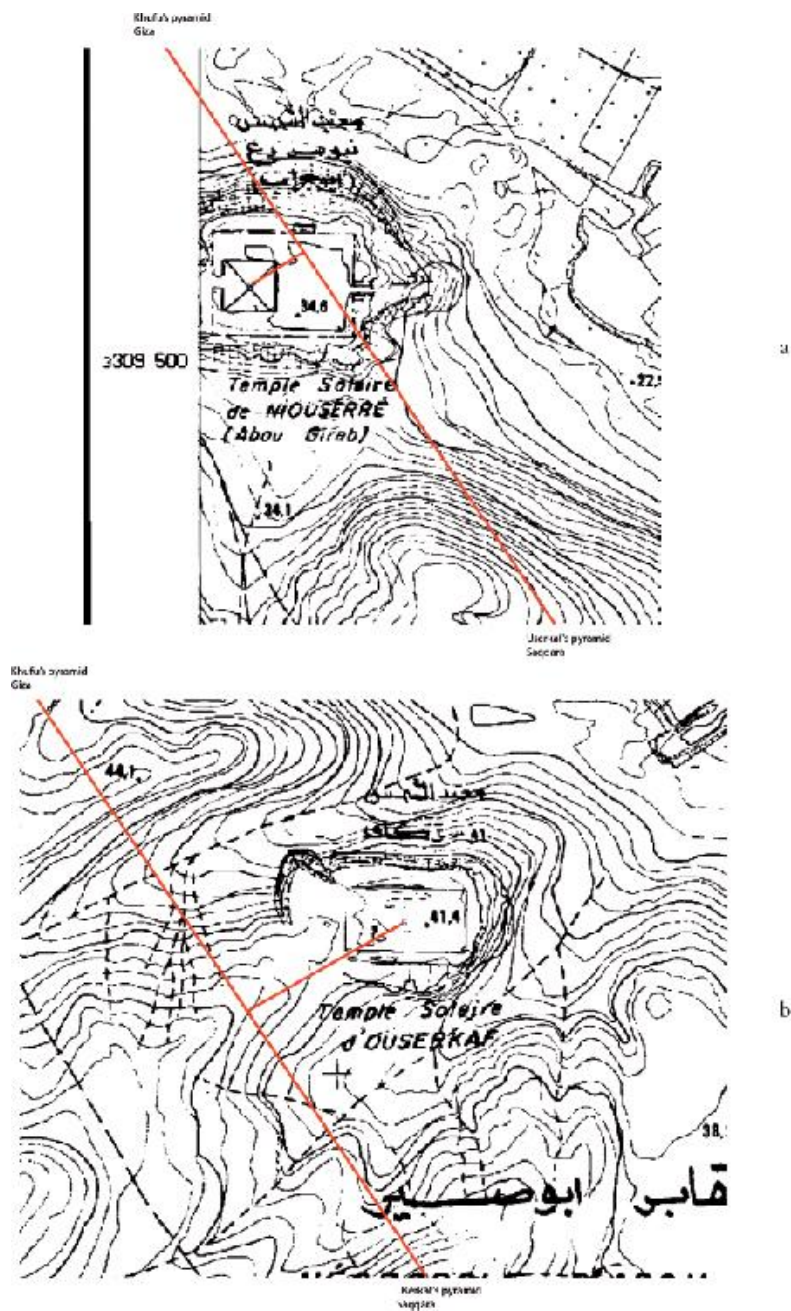


Fig. 5: Line (based on the map 1 : 5000) linking the top of the pyramid of Userkaf in



Fig. 6: View of the tomb of Shepseskaf in south Saqqara from the north. In the background are the Bent pyramid and Red pyramid of Sneferu in Dahshur. (photo Milan Zemina)

Userkaf's following step was very logical and predictable. Owing to the restricted space around his and his spouse's pyramids, Userkaf decided to choose a convenient site for a new cemetery for his successors. He picked Abusir, at that time an empty part of the Memphite necropolis, and his option was confirmed by the construction of a temple dedicated to the sun god, under whose protection he desired them to make the future cemetery. The chosen area lay very close to the site of modern Abu Ghurab which represented the southernmost limit which allowed a visual connection with the sun temple in Heliopolis. Userkaf's decision might have respected both the intended symbolism and the limits given by the character of the terrain. As a matter of fact, the configuration of the terrain prevented the building of pyramids on the Heliopolis – Abu Ghurab line because to the south-west of Abu Ghurab (that is, on the aforesaid line) runs a broad valley which is totally unsuited for such constructions. The area nearest to the Heliopolis – Abu Ghurab line suitable for founding a new pyramid cemetery lay south of Abu Ghurab. By choosing the site for his sun temple south of Abu Ghurab, did Userkaf want to indicate that it was in this direction, that is, south of Abu Ghurab, that the new royal cemetery should be founded? Is it merely coincidence that Userkaf's sun temple lies half-way between Abu Ghurab and the pyramid of Userkaf's son Sahure, who built the first funerary monument in the Abusir royal necropolis?



Fig. 7: Fragment of an obelisk found at the south-west corner of the mastaba of Ptahshepses at Abusir (photo Milan Zemina)

To sum up: The chosen area of Abusir – Abu Ghurab was a symbolic point for the intersection of two lines, one linking it with the tomb of Userkaf and the cemetery of royal ancestors in Giza, and the second line connecting it with the principal religious centre of that time, Heliopolis. By this decision Userkaf probably wished to support the legitimacy of his dynasty. Where to build within the chosen area the pyramids depended on the convenient configuration of the terrain. This decision was left to the surveyors and builders of the first pyramid complex in Abusir, that of Userkaf's son Sahure.

In conclusion, it might be of some relevance to the previous discussion to mention briefly a half forgotten archaeological find which is closely linked with the previous discussion; namely, a fragment of a large red granite pyramidion ([Fig. 7](#)) found in the mid 1970s at the south west corner of the

mastaba of Ptahshepses in Abusir.¹⁷ The pyramidion, originally sheathed with copper plates, possibly gilded, came from an obelisk at least about 15 m tall. The monument might have originally stood on a platform at the north-east corner of Niuserre's mortuary temple, about 30 m from the place where the pyramidion was found. Leaving aside speculations about its origin and purpose, the obelisk is the earliest extant piece of evidence of this type of a slender monolith. It supports the presumption that a tall monolith of around 20 m might have stood at that time also in the sun temple in Heliopolis.

¹ This paper has been prepared with the support of the Czech Ministry of Education project 'The Exploration of the Civilization of Ancient Egypt', MSM 0021620826. The authors of this article would also like to thank Dr. Bahay Issawi to whom they owe several cited cartographic documents.

² The problem has already been discussed for example by W. Kaiser, 'Zu den Sonnenheiligtümern der 5. Dynastie', *MDAIK* 14 (1956), 114 n 8; H. Goedicke, 'Abusir – Saqqara – Giza', in M. Bárta and J. Krejčí (eds), *Abusir and Saqqara in the Year 2000* (Praha 2000), 397–412; R. Stadelmann, 'Userkaf in Saqqara und Abusir. Untersuchungen zur Thronfolge in der 4. und frühen 5. Dynastie', in Bárta and Krejčí (eds), *Abusir and Saqqara in the Year 2000*, 529–542.

³ M. Lehner, *The Complete Pyramids* (London 1997), 128–132.

⁴ H. Goedicke, 'Causes and Concepts', *BACE* 6 (1995), 31–50. Even prior to Goedicke's article, Georges Goyon noticed that the north-south axis of the pyramids of Pepy I and Userkaf lie on the same line (G. Goyon, 'Nouvelles observations relatives à l'orientation de la pyramide de Khéops', *RdE* 22 (1970), 88). On the same line, as shown in our article, also lies the north-south axis of the pyramid of Khufu.

⁵ J. Romer, *The Great Pyramid. Ancient Egypt Revisited* (Cambridge 2007), 306 n 17.

⁶ D. Jeffreys, 'The Topography of Heliopolis and Memphis: Some Cognitive Aspects', in H. Guksch and D. Polz (eds), *Stationen. Beiträge zur Kulturgeschichte Ägyptens Rainer Stadelmann gewidmet* (Mainz 1998), 63–71.

⁷ S. Quirke, *The Cult of Ra. Sun worship in Ancient Egypt* (London 2001), 90.

⁸ It was pointed out already more than ten years ago in the Czech edition of M. Verner, *Pyramidy. Tajemství minulosti* (Praha 1997), 266 and, subsequently, in foreign editions of the book (*Die Pyramiden* (Reinbek bei Hamburg 1998), 337 and *The Pyramids. The Archaeology and History* (New York 2001), 303) that the Abusir pyramids of Sahure, Neferirkare and Neferefre had also been aligned in such a way that the line intersecting their north-west corners was directed toward Heliopolis.

⁹ Concerning the problems with the chronology of the Old Kingdom, see e.g. A. Spalinger, 'Dated Texts of the Old Kingdom', *SAK* 21 (1994), 275–

319, and M. Verner, 'Archaeological Remarks on the 4th and 5th Dynasty Chronology', *ArOr* 69 (2001), 363–418.

¹⁰ The few metres error in alignment might have been caused by the additional change of the original plan of Menkaure's pyramid as shown e.g. by two entrances to the pyramid. Concerning the discussion on the alteration of the original plan of Menkaure's pyramid, see V. Maragioglio and C. Rinaldi, *L'architettura delle piramidi menfite. Parte VI – Testo* (Rapallo 1967), 68.

¹¹ Due to the unexpected early death of Neferefre, the unfinished core of the lowest step of the core of his pyramid was hastily cased with a relatively thin layer of small limestone blocks. However, the size of the pyramid's foundation platform and some builders' marks enabled us to establish the hypothetical north-west corner of the originally planned casing of the pyramid, see M. Verner et al., *Abusir IX. The Pyramid Complex of Raneferef. The Archaeology* (Prague 2006), 5–14.

¹² Unfortunately, the archaeological and geodetical data referring to the Abusir pyramids are not available in such a scope and accuracy as those referring to the Giza pyramids. For instance, the north-west corner of the additionally enlarged pyramid of Neferirkare had not been unearthed by Ludwig Borchardt and it still lies under a layer of debris several metres thick. The reconstructed line linking the Abusir pyramids with the sun temple in Heliopolis thus rests on only two north-west corners, those of the pyramids of Sahure and Neferefre. Moreover, the two north-west corner of Sahure's pyramid was not, as pointed out in the text, geodetically precisely identified but only calculated. Therefore, the about 200 m deviation of the line from the obelisk in Heliopolis is not so surprising if we consider that only one metre error in surveying the north-west corners of the pyramids in Abusir can cause a deviation of 48 m in Heliopolis, about 28 km distant!

¹³ The approximate height of the additionally built stone obelisk in Userkaf's sun temple can be reconstructed on the basis of data published by H. Ricke, *Das Sonnenheiligtum des Königs Userkaf I* (Beiträge Bf 7; Cairo 1965), 9–13 and fig. 5.

¹⁴ Hans Goedicke (in Bárta and Krejčí (eds), *Abusir and Saqqara in the Year 2000*, 486) was the first one to point out that Userkaf's sun temple lies on the line linking the centre of Userkaf's pyramid with the centre of Khufu's pyramid.

¹⁵ The situation in the royal family at the end of the fourth dynasty and the problem of Menkaure's successor were discussed, including the relevant bibliography, by P. Jánosi, *Giza in der 4. Dynastie. Die Baugeschichte und Belegung einer Nekropole des Alten Reiches. I. Die Mastabas der Kernfriedhöfe und die Felsgräber* (DÖAW 20; Wien 2005), 65f. See also M. Verner, *Abusir III. The Pyramid Complex of Khentkaus* (Praha 1995), 165–178.

¹⁶ This explanation of a very unusual plan of Userkaf's pyramid complex

was suggested by the author of this paper in *Pyramidy*, 247; *Die Pyramiden*, 312 ; *The Pyramids*, 279.

¹⁷ M. Verner, 'Discovery of an obelisk at Abusir', *RdE* 29 (1976), 111–118.

The economic connection between the royal cult in the pyramid temples and the sun temples in Abusir

Hana Vymazalová

Introduction

The royal necropolis of Abusir is a site which has, during the past century of exploration, revealed an unparalleled variety of evidence including both archaeological and written sources. The excavations of German,¹ Czech² and Egyptian³ teams have brought to light many significant archaeological remains and also unique administrative archives.⁴ This provides us with an opportunity to discuss and analyse the necropolis of Abusir and the royal cults from different angles, combining archaeological and textual material which comes from the site and relates to its life in antiquity.

In this paper, the archaeological and textual evidence available so far from Abusir will be summarised in order to discuss the economic and administrative relationship between the funerary temples and the sun temples in the fifth dynasty. Each source – archaeological and textual – provides us with a very different type of information and this creates difficulties when we try to reconstruct the general features of the economic and administrative connections between both kinds of temples.

The basic sources for the study are the archaeological reports of the excavators and the fragments of administrative archives from Abusir. Of the six kings who are known to have built a sun temple,⁵ four were buried in Abusir, and the sun temples of only two kings have been discovered and explored.⁶ The excavated sun temples of Userkaf and Niuserre were associated with finished, standard pyramid complexes, while the remains of archives have been found in the unfinished funerary complexes of two other kings, Neferirkare and Neferefre. The preserved documents from the temple archives undoubtedly reflect the specific situation under which the funerary

cults of the two kings operated. Therefore, the information which we obtain from the texts and from the sun temples does not necessarily complement each other and this of course imposes some limitations upon our research.

The sun temple(s) in the archive of Neferirkare Kakai

A major part of the evidence for the connection between the pyramid temples and the sun temples comes from the administrative archives discovered in Abusir. The papyrus fragments found in the pyramid temple of Neferirkare Kakai in the 1890s reveal a close economic connection between the funerary cult of the king and his sun temple *st-ib-r*, which was discussed by Posener-Kriéger in her excellent analysis of Neferirkare's documents.⁷ No other sun temple appears in the documents from the king's archive. The documents seem to indicate that the sun temple *st-ib-r* served as a transit point through which a large part of the products were sent to the funerary temple of Neferirkare, *b3 nfr-ir-k3-r*.⁸

This apparent economic significance of the king's sun temple is very interesting. The sun temple constituted only the last part in the chain of the economic route of the offerings. The products came originally from the agricultural domains established by Neferirkare in different parts of Egypt. So far, we know of only 26 funerary domains of Neferirkare,⁹ but the recent discoveries from Sahure's causeway indicate that kings actually established hundreds of domains to support their construction projects and funerary cults.¹⁰ The products from the domains were centralised through the royal residence and king's palace which very probably kept a large part of it in its storerooms for further redistribution and as a state reserve for bad years.¹¹ A certain part of the products was then sent to the sun temple *st-ib-r* which probably kept part of it for its own needs and sent the part assigned to the king's funerary cult on to his funerary temple.¹²

The large fragment of papyrus Neferirkare¹³ 33–35 contains a record of the delivery for the king's funerary temple,¹⁴ which is designated as *hṭp-nṯr* [...] *hṭp r b3 k3k3i m st-ib-r* ‘the god's offering which is sent to “Kakai is the Divine power”¹⁵ from “the Seat of the heart of Re”’. This god's offering ascribed to the funerary cult of the king included *p3t*-bread from *st-ib-r* besides bread and beer from *r3-š k3k3i* and from the Residence. Another *hṭp-nṯr* delivery from the sun temple occurs on the small fragment Neferirkare 97A,¹⁶ and mentions sweet fruits (*ndmt*).

In addition to the divine offering, daily supplies sent from *st-ib-r* for the king's funerary temple are also recorded on some other fragments from the king's funerary temple archive. This ‘ordinary’ bread and beer sent from *st-ib-r* is not associated with the *hṭp-nṯr* in any of the preserved fragments

but this might be due to the fragmentary state of preservation of the documents. There is thus some doubt whether the deliveries were also part of the god's offering or other, regular supplies for the funerary cult. The latter seems more probable. These daily deliveries included bread, beer and meat (documents Neferirkare 36 A, 41 b, 42 c, 43 Aa, 46 A3, 48 A10).¹⁷ The king's sun temple is again only one of the places from which the products were sent, besides the Residence and *r3-š* which too supplied the funerary temple daily with bread and beer (documents Neferirkare 36 A, 42 and 43 A).¹⁸

Besides bakery and brewery products, other products were also the subject of deliveries sent from *št-ib-r* for the funerary temple *bs ksksi*. Linen, grain and other goods were usually recorded separately from the bread and beer (documents Neferirkare 47 A 1, 49 D, 50 1d, 63 C, 92 A b1 linen; 50 1b grain; 51 2a,c, 60 A different products).¹⁹

The sun temple(s) in the archive of Neferefre Izi

In the records that survived in the funerary temple of Neferefre Izi, no mention of his own sun temple *hṯp-r* are preserved. It might be due to the fragmentary state of preservation of the king's archive because no tables of regular deliveries of the type known from the archive of Neferirkare (for example, his document 33–35 [see note 14]) were preserved among the records from Neferefre's pyramid temple archive.²⁰

It is on the other hand very probable that *hṯp-r* was never finished and/or was only briefly in operation,²¹ and that Neferefre's funerary cult was supplied from – or connected to – other institutions. Neferefre's successor Niuserre, who finished his brother's pyramid complex, also arranged the matters and provisions for Neferefre's cult. The documents show that Neferefre's cult was supported from funerary establishments of some of his powerful predecessors, for example, from Giza, Maidum and Saqqara,²² and this was easily possible thanks to the central role of the residence in the process of economic redistribution. It is, however, not clear whether the deliveries from those different sites were part of the regular income of Neferefre's temple as a substitute for his own economic establishments, or whether they were rather specific and concerned commodities of special significance, as they mention mainly linen, special bakery products and so on, but not the regular bread and beer supplies.

The divine offering blessed by the sun god in the sun temple was of special significance for the fifth dynasty kings, and it is very probable that Neferefre's cult was connected to one of the other kings' sun temples. The preserved evidence indicates that some special bakery products (*pst*-bread or

cakes) were delivered to Neferefre's pyramid temple from *st-ib-r*. Neferefre document 47–48 A²³ mentions ten pieces of *pst*-bread from *st-ib-r* delivered daily from the temple of Ptah to the funerary temple of the king, and this text probably relates to celebration of a large religious festival.²⁴ The same number per day from *st-ib-r* also appears on small fragment Neferefre 52 F,²⁵ while the document Neferefre 66 A²⁶ refers to 150 *pst*-bread delivered from *st-ib-r* on one day. Neferefre 71 A²⁷ mentions the *pst*-bread explicitly as part of *ht hwy*, the ‘evening offering ritual’. This is very interesting because *pst*-bread was also part of the divine offering sent from *st-ib-r* to Neferirkare's own funerary temple. The preserved fragments from Neferefre's archive however never designate the *pst*-bread as part of the divine offering. We cannot be sure whether the deliveries of this bakery item from *st-ib-r* for Neferefre's cult represent the religious connection of the king's cult to this sun temple. It is however also possible that the sun temple *st-ib-r* was a rare production place of this food and that the *pst*-bread was sent from *st-ib-r* to different institutions, for example, to the temple of Ptah and from there further on to the pyramid temples, as indicated by the document Neferefre 47–48 A (see note 23).

The sun temple of Niuserre Ini, the foundation inscriptions

In his sun temple *st-ib-r* in Abu Ghurab, Niuserre Ini carved two inscriptions by the sides of the entrance into the lower (valley) temple which seem to be related to the economic establishments connected with this temple. The inscriptions have survived only in small fragments²⁸ and are largely incomplete, but Helck managed to reconstruct them to some extent.²⁹

The two inscriptions referred to large amounts of food consumed in the sun temple (?) during religious festivals which are also listed in the texts. In addition to that, there were domains named by which the king intended to support the economy of the sun temple. Helck estimated around 30 domains mentioned in the inscriptions,³⁰ while Jacquet-Gordon mentions eight domains attributed to the sun temple.³¹ The names of those domains included the name of Re, and this clearly connects them to the sun temple.³²

From other sources, we know so far of 28 funerary domains of Niuserre Ini which supplied the king's pyramid temple. These domains were depicted on the reliefs in his funerary temple (19 domains), on fragments of papyri (two domains), and in tombs of officials (seven domains).³³ The names of some of these domains contain names of gods, including one domain with the name of Re³⁴ which is unknown from Niuserre's foundation inscriptions. Did there really exist ‘funerary’ domains and ‘sun temple’ domains of the king, or were some of the funerary domains also assigned to the sun

temples?

The foundation inscriptions of Niuserre Ini mention the celebration of many (more than 26³⁵) festivals in the course of the whole year, and large quantities of food consumed during the festivals, ranging from 1000 loaves and one ox, up to 30,000 portions of bread and beer and ten oxen.³⁶ The above mentioned domains seem to be mentioned explicitly in connection with these festivals, and it also seems that the specified amount of food required for the celebrations was to be provided from those particular estates. The large amounts of products related to some of the festivals in the inscriptions indicate that a large number of people attended the celebrations at the sun temple and took part in the offerings.³⁷ We can presume that such celebrations of more important festivals did not concern only the sun temple but also the rest of the necropolis and the many people living in its vicinity.

It is however not clear from the texts whether the economic production of the domains would thus be used only for the celebrations of the festivals organised by the sun temple or whether they also managed to produce enough to send products regularly during the rest of the year. Documents from the archive of Neferirkare's pyramid temple indicate that the sun temple had its own income and that it sent some products for the purposes of the king's cult, both as regular deliveries and as divine offerings (see above). But was the income of the sun temple independent of the pyramid temple?

Administration of the sun temple and funerary temples

A connection between the funerary temples and the sun temples can also be traced in the administrative titles of the people who were associated with the temples. The titles related to the sun temples include various *ḥm-ntr*, *wꜥb* and *jmj-r* titles, and these indicate that the main activities of the officials serving in a sun temple were connected to the cultic rituals and administration of provisions.

No *ḥntjw-š* of sun temples appear in the evidence, although *ḥntjw-š* constituted an important part of the funerary temple attendants who fulfilled a number of specific tasks in the funerary cult. This difference in evidence naturally reflects the difference in the operation of the sun temples and the funerary temples. There existed two categories of personnel: those who were linked only to the pyramid complexes and those who served in the palace, and had an administrative connection to the sun temples and pyramid complexes.³⁸ The latter were often connected to the person of the king and the royal palace.³⁹ The question remains to what extent these high-ranking officials actually performed cultic acts in the temples. It has been presumed that the titles associated with the sun temples and the funerary temples of

kings represented part of the economic income of these persons rather than a real function to perform in the temples.⁴⁰

Most of the officials who include in their title strings priestly titles associated with one or more sun temples were also connected to one or more funerary temples.⁴¹ It was not uncommon that officials were connected with one or more sun temples and at the same time with a funerary temple of a different king (or more kings).⁴² At the same time, the lower-ranking people mentioned in the documents from the papyrus archives, who performed their duties in the temples, were usually associated with one temple. This indicates that the administration of the sun temple and that of the funerary temple built by an individual king was not necessarily closely interconnected. The number of people associated with both kinds of temples was thus enlarged, and a larger number of people was supplied through the cult of the kings of the fifth dynasty.

The royal ideology and the sun temples

It is clear that there existed a very close connection between the sun temples of the fifth dynasty kings and their funerary temples and funerary cults. There is however one major question which remains to be answered: why did the fifth dynasty kings start to build sun temples related to their pyramid complexes?

The answer to this question can be seen from two different angles. Many scholars have proposed suggestions. The idea presented by Quirke that the clue was the visual connection between a funerary complex and Iunu has been generally accepted.⁴³ Beginning with Userkaf, kings sought to maintain the link between the king's cult and the house of the sun god. Another proposal was presented by Nuzzolo, that at the beginning of the fifth dynasty, the new triumphant Heliopolitan theology reconciled two main aspects of the royal cult – funerary and solar – as parts of his kingship.⁴⁴ The kings of this dynasty needed to build their own sun temples to be able to perform essential rituals for the worship of their own persons.⁴⁵ The pyramid complexes and the sun temples undoubtedly formed two parts of one unit created to maintain the cult of the king. The division into two separate places reflected the two aspects combined in the figure of the king:

The unit-complex of the royal funerary temple and sun temple reflects both of these elements. Kingship and the rebirth of the king after his death were important for royal ideology. Its true value, however, lay in the fact that the king through his inherited divine kingship ensured for the people of Egypt the maintenance of the order of their world.

In the sun temples, both Re and Hathor were worshipped, as shown by the titles of the sun temple attendants.⁴⁷ Re was the main creator god in

Egyptian religion, and at the same time, according to legend, he was the ancient king of Egypt. He guaranteed the existence of the world's order, with the help of Hathor, the feminine aspect of the sun.⁴⁸ Nuzzolo sees the introduction of the cult of Hathor in sun temples as a novelty⁴⁹ but in fact her role there was as important as the role of Re himself. She was his right eye, who had magical protective power over the god. He could not maintain the order of the world without her uniting with him.⁵⁰

The necessity of maintaining and renewing order, which was permanently in danger, was very well expressed in the myth of the *Destruction of Mankind*. The creator Re who himself ruled Egypt wished to punish rebellious humankind through the bloodthirsty goddess Sekhmet. Her action was so violent that the gods had to make an effort to calm her and change her into the creation-loving Hathor, who became the right eye of Re and united with him. That was the moment when the order of the world was saved, renewed and re-ensured.⁵¹ The roots of this belief were undoubtedly very ancient, and the reflection of this legend and belief can be found in evidence throughout the history of Egypt.

For the people of Egypt, the king was another part of the scheme because he represented divine rule on Earth,⁵² being the only connection between the divine world and the human world. He was the one to confirm order in the world of men. In the fifth dynasty sun temples, the king was the third part of the triad.⁵³

The king's role in the process was the renewal of kingship, and this seems to be closely related to the idea of the *sed* festival which constitutes the main motif of the decoration of Niuserre's temple in Abu Ghurab.⁵⁴ We know very little about the celebrations and the real meaning of the *sed* festival in the Old Kingdom. In later times, a king achieved continuation and renewal of kingship by celebrating his *sed* festival in his 30th year of reign.⁵⁵ But we also have depictions of *sed* festivals of kings who are known not to have reached that point in their reigns (Sahure, for example). The motif thus made a symbolic reference to the king's participation in the eternal process of renewal of the world order. The idea of the *sed* festival thus seems not to have been connected only to individual kings, but through using this motif the kings confirmed the continuation of Egypt's existence.

The moment of the renewal was in ancient Egyptian beliefs traditionally connected with periods of change – above all with the New Year. The motifs of the world's natural cycles are strongly associated with this, and are expressed by depictions of seasons and the variety of plants and animals. This can be also found in the decoration programme of the sun temple in Abu Ghurab. As the rituals and the function of the sun temples were symbolic, any king could build (or was at that time obliged to build) a sun temple and decorate it with the motifs of the *sed* festival even without reaching the point of its celebration on earth.

The pyramid temple and the sun temple in the fifth dynasty thus constituted a unit-complex: in the pyramid complex, the resurrection of an individual (the king) was ensured, and he was venerated and received his funerary cult there. By maintaining his personal cult, he participated in maintaining order in the Netherworld for the people of his time. In the sun temple, the rituals were completed by linking the cult of the eternal kingship with the cults of Re and Hathor. In this way, the rituals in the two temples secured the eternal renewal and affirmed the order of the world and of the netherworld which were a unity for the Egyptians.

It is beyond doubt that the ideas expressed by the fifth dynasty sun temples were not at all new in Egyptian religious beliefs and state ideology. They actually represent a pre-eminent concept running through millennia of Egyptian history and reflected in many ways in the architecture and religious development.

For the Old Kingdom, the focus of the present conference, it is possible to trace the same concept in different monuments. The fifth dynasty sun temples seem to be one of the forms expressing the idea, which had existed previously and is clearly also apparent in later periods.⁵⁶ Two aspects of the king are always present – the funerary cult and the Osirian tradition, and the sun cult and the solar aspect of kingship. However, traces of the same concept and of the two motifs appear even earlier in history. It is possible that the ancient roots of the concept can be found at the archaic cemetery in Abydos, with the royal tombs and the large enclosures.⁵⁷ Indeed, a certain continuity between the archaic enclosures and the fifth dynasty sun temples has been suggested by Papazian.⁵⁸

The third dynasty complex of the Step Pyramid of Netjerikhet in Saqqara seems to combine the two motifs in one architectural complex. The funerary aspect is present in the tomb itself, while the surrounding buildings and the preserved decoration have very strong *sed* festival connotations.

In Sneferu's monuments in Dahshur, we can find features similar to the sun temples of the fifth dynasty.⁵⁹ The solar aspect became very strong during the fourth dynasty, as indicated by the size and the shape of tombs, the introduction of the name *ss3-r**, the introduction of sphinxes as one of the forms of the king, and other indications.⁶⁰ Moreover, a solar cult existed in the necropolis in Giza at the temple in front of the Sphinx.⁶¹

In the fifth dynasty, as we have seen, the concept was expressed by royal pyramid complexes and the sun temples together. The last king who is known to have built a sun temple was Menkauhor, and during the reign of Djedkare a formal change came to pass which is reflected in the architectural expression and also in the administration. Nuzzolo pointed out that, at the time of Djedkare, both aspects of the cult of the king came to be performed in the pyramid complex, and the administration of the king's cult was separated from the royal palace and the person of the king.⁶²

More changes can be traced under Unas and in the sixth dynasty. The introduction of the Pyramid Texts, the abandoning of the sun temples at the necropolis, and the elevation of the cult of Re in Iunu seem to be no coincidence. Starting with the sixth dynasty, we have the first known burials of the ‘the Greatest of Seers’ (probably the high priests of Re) at Iunu⁶³ and this office apparently shifted from the royal court to the temple itself.⁶⁴ Earlier in the Old Kingdom, Iunu was designated as the place of *bsw n Iwnw*, and the Ennead was revered there. From the sixth dynasty however, Re was revered in Iunu together with Hathor, and this indicates that the same idea of renewal of the world order was important there. The personal cult of the king was at the same time augmented through an increase in the number of their *hwt-k3* in different parts of Egypt, which also increased the power of the king and his economic control in the country outside the Residence.⁶⁵ The sixth dynasty kings simply adopted another form of the same concept, in which they centralised the cult of Re, and this enabled them to control its increasing economic income.

The economic relationship between the funerary temples and the sun temples

The evidence which has survived in Abusir is very fragmentary but still it clearly indicates that the pyramid temples and the sun temples were economically connected. Moreover, as both temples functioned as a cultic unit, each representing a separate aspect of kingship, they very probably also formed a single economic unit.

Both temples seem to have shared the income from the funerary domains established by the king. Very probably, the sun temple in particular would receive its revenues from those domains which bore the name of Re. Domains of Re are attested in the foundation inscriptions from Abu Ghurab. The incomplete state of preservation of the inscriptions, however, prevents us from properly understanding the establishments of the sun temples and we cannot be sure whether all the production of the domains of Re was allocated to the sun temple or whether it was divided between the sun temple and the pyramid temple of the king,⁶⁶ the domains thus being both sun-temple domains and funerary domains. It is possible that the domains mentioned in the inscriptions in the sun temple were actually funerary domains of the king that also partly contributed to the cult of Re in the sun temple. It is irrelevant whether they were chosen according to their name or whether they were given the name because of their assignation, although the latter seems more probable. The same division of products between the divine cults and royal cults is present also for domains containing names of other gods, such as Ptah, Hathor, Nekhbet and so on.⁶⁷ It is therefore possible that the economic

domains associated with divine names played the main role during specific religious festivals for the deity itself, and the royal cult.

Some of the royal domains were later also used by officials for their own cults and these people mention such favours in their tombs. Many of these royal domains contain the names of Re + King, but it is particularly interesting that the names of those kings who built the sun temples do not appear in those cases. Might this indicate that the domains ascribed to Re by those kings could not be used by private people? The only exception to this rule is the domain *////// r̥ ni-wsr-r̥* listed in the tomb of Khufukhaf who was a royal prince.⁶⁸

The ‘pyramid towns’ of the unfinished complexes

The principal textual evidence on the economic conditions in Abusir comes from the two unfinished pyramid complexes. While the two other pyramid complexes possessed standard pyramid towns with administrative and production facilities, the unfinished pyramid complexes had to develop a somewhat different administrative and economic background due to their incomplete state.

The pyramid town founded during the time of Neferirkare was taken over by Niuserre, as well as the construction (already started) of the valley temple and causeway. However, the pyramid town of Neferirkare is attested in written evidence, namely on a fragment of a relief discovered by Borchardt,⁶⁹ which mentioned an *imy-r̥* of *b3 kskt*. PosenerKriéger suggested that this pyramid town was probably located close to the pyramid temple of the king,⁷⁰ and can be associated with the so-called ‘houses’ revealed by Borchardt around Neferirkare's pyramid temple.⁷¹ Moreover, sondages undertaken in the early 1980s in the space between the pyramid temples of Neferirkare and Khentkaues II revealed mud-brick structures,⁷² and houses were also discovered by Verner inside Neferefre's pyramid temple.⁷³ The space between the funerary temples of the unfinished complexes thus seems to include the remains of a small administrative settlement serving the royal cults which developed during the reigns of Menkauhor and Djedkare.⁷⁴ Such a centre could undertake the basic tasks of a standard pyramid town, although the space seems not to be sufficient to develop a fully functioning production and administrative facility.

Documents from Neferirkare's pyramid temple archive show that the king's cult was very closely economically associated with the sun temple of the king, *st-ib-r̥*. Moreover the texts indicate that the sun temple often received the products in the form of grain, while cattle and birds were delivered alive. The products allocated to the cult of Neferirkare were transformed into bread and beer in the bakeries and breweries of the sun temple and of the Residence.⁷⁵ Grain and animals were partly allocated to

the sun temple itself, but another part belonged to the pyramid temple of the king, from which it was sent to the sun temple to be further treated. Then, ready-made bread, beer and meat portions were sent back to the pyramid temple, and the records make it clear which part of the delivery came from the sun temple's own sources, and which part belonged to the pyramid temple and was just prepared for consumption in the facilities of the sun temple. The sun temple ~~st-ib-r~~ apparently possessed storerooms for grain, stables and cages for cattle and birds, but also such places of production as a bakery, a brewery and a slaughterhouse.⁷⁶ A larger administrative centre must have existed there, and it is very probable that the city associated with the sun temple fulfilled part of the function of a standard pyramid city which Neferirkare's unfinished pyramid complex did not have, because it was taken over by Niuserre.

The papyrus archive from Neferefre's pyramid temple unfortunately provides us with no records that mention the regular deliveries of ordinary bread and beer,⁷⁷ and the preserved evidence gives no indications of the location of the administrative background of Neferefre's funerary cult and its clear connection to the sun temples. From other sources we know that different institutions participated in Neferefre's cult. Hieratic inscriptions on fragments of pottery vessels show that beef fat was delivered from the slaughterhouses of Sahure's palace⁷⁸ in the reigns of Niuserre and Menkauhor,⁷⁹ when *hwt-nmt*, the slaughterhouse associated with Neferefre's pyramid temple, was already out of use⁸⁰ (see further below). Verner presumed that meat for Neferefre's cult was also delivered from the slaughterhouses of Sahure's palace.⁸¹ The production places existing at Neferirkare's sun temple could be substituted in Neferefre's case by other facilities already in existence in the necropolis.

In addition to the production workshops, Neferefre's cult was also in need of an administrative centre. With the pyramid complex unfinished and the sun temple not constructed, we might presume that Neferefre's cult was administratively connected with one of the existing pyramid towns in Abusir, at least for some time after the king's death. During Niuserre's lifetime, when extensive construction was under way in the necropolis, the administrative centre of his pyramid town was probably responsible also for the organisation and supplying of the cults of his two predecessors with unfinished pyramid complexes. After Niuserre's death, the role of the administrative centre became more limited, taking care of the king's cult, while the major part of it moved away to the construction site of the new king. The archaeological evidence shows that in the time of Menkauhor and Djedkare, the pyramid temples of Neferirkare and Neferefre became inhabited by temple employees,⁸² and – as suggested above – some substitute for administrative centres for the two royal cults may have existed in the so far unexplored area between the pyramids of Neferirkare, Khentkaues II and Neferefre, and around them.

Only archaeological exploration of that area can confirm or exclude the existence of houses and production places connected with the temples of Neferirkare and Neferefre, and enable us to analyse the texts from their archives with the knowledge of the broader archaeological situation. The exploration of Niuserre's pyramid town at the edge of the valley in Abusir would also provide useful information for comparison with the material from Abu Ghurab.

The Abusir slaughterhouses

An interesting part of the economic circle of the Abusir temples seem to be represented by the slaughterhouses. Several slaughterhouses are attested in the evidence, both written and archaeological, and it appears that different arrangements existed for each of the monuments in the necropolis.

Sahure's slaughterhouses, mentioned in hieratic inscriptions on jar docketts found in the temple of Neferefre,⁸³ were related to the palace of the king *wts nfrw ššhw-r**. The precise location of the palace is unknown but it is presumed that it lay near the king's pyramid town at Abusir, close to the administrative centre of the king's cult.⁸⁴ The slaughterhouses of the palace were very probably the first established slaughterhouses on the site of Abusir, and provided meat for Sahure's funerary cult. The association of the slaughterhouses with the palace indicates that the royal administration controlled carefully the consumption of meat associated with the king's cult, and this situation can be considered as standard.

Texts from Neferirkare's archive indicate the existence of a slaughterhouse by the sun temple *št-ib-r**. The archive shows that meat was delivered separately from other common products and it was possibly not part of the divine offering but only the funerary offering.⁸⁵ This is reflected not only in the account-tables of deliveries but also in the tables of priestly duties which – in the case of the funerary temple attendants – distinguish between ‘those to bring meat and vegetables for the living (?) from *št-ib-r**’, and ‘those to bring *hṯp-nṯr* from *št-ib-r**, from the residence and the palace’ (document Neferirkare 5 c,d).⁸⁶ The slaughterhouse associated with the sun temple *št-ib-r** should be seen in the context of the king's funerary arrangements. Neferirkare did not finish his pyramid complex and his valley temple was used by Niuserre, in addition to the administrative pyramid city which developed around it in the cultivation. After this happened, the full administrative function of the pyramid city was not available for Neferirkare's cult. We can suppose that Neferirkare's *št-ib-r** had a similar administrative centre as the sun temple *št-ib-r** (see below). It is possible that this city, associated with the sun temple, somehow served as part of the civil function of a standard pyramid city, and this could be the reason why the slaughterhouse relating to Neferirkare's cult was associated with the sun temple of the king.

The archaeological exploration of Neferefre's pyramid complex revealed remains of a slaughterhouse in the vicinity of the king's funerary temple.⁸⁷ This is the oldest Egyptian slaughterhouse so far discovered and it is, moreover, attested in the texts as *ḥwt nmt* 'house of the knife'.⁸⁸ Neferefre's funerary complex was however unfinished and no pyramid town and no sun temple were built for this king. After the pyramid temple was enlarged in the reign of Niuserre, Neferefre's slaughterhouse became a storeroom. Evidence found during the exploration of the temple indicated that meat provisions for the king's cult were later delivered from the slaughterhouses of Sahure.⁸⁹

A slaughterhouse associated with the monuments of Niuserre Ini is so far unknown from both archaeological and textual evidence. The previously presumed existence of a slaughterhouse inside the sun temple *ḥt-ib-r* cannot be confirmed.⁹⁰ On the other hand, a town existed by the sun temple at Abu Ghurab, and parts of its enclosure wall and remains of mud-brick structures were uncovered.⁹¹ Even though the city itself has never been fully explored, it is presumed to have been equipped with administrative buildings and also bakeries, breweries, and storerooms. This type of town, associated with the sun temple, fulfilled the same function as the pyramid towns associated with the pyramid complexes. It cannot be determined unfortunately whether the town also contained a slaughterhouse.⁹² A slaughterhouse could exist also in the pyramid town by the valley temple of Niuserre Ini, as in the case of Sahure's slaughterhouses. The king may have established a slaughterhouse in his pyramid town, or he might have used the slaughterhouse of Sahure – and possibly also his palace situated near Abusir – instead of establishing a new one (and that would explain why he connected Neferefre's cult to this slaughterhouse). The pyramid town around Niuserre's valley temple has not yet been explored, and we cannot say whether similar production centres also existed there.

Both the eloquent documents from the papyrus archives and the archaeological evidence indicate that meat was an important part of the deliveries for the royal funerary cults. Each king seems to have established a slaughterhouse connected with his pyramid complex to provide the necessary supplies of meat for his cult in Abusir.

Conclusions

The pyramid complexes and the sun temples undoubtedly formed two parts of one unit created to maintain the cult of the king in relation to the cult of the supreme god. The division into two separate places reflected the two aspects combined in the person of the king – in the pyramid complex, the resurrection of an individual mortal king was secured, who was connected with Osiris in the later Pyramid Texts, and ruled his people in the Netherworld. In the sun temple, the rituals were completed through the cult

of eternal kingship dependent on the cult of Re and Hathor. The King – the incarnation of Horus – guaranteed order and life for his people through the idea of the *sed* festival rituals. In this way, the rituals in the two temples secured the eternal renewal and confirmation of order in this world and the Netherworld, which were a unity for the Egyptians. This goal was achieved through the process of the reversion of offerings which were offered first to the god-creator, then to the king – and then distributed to the temple attendants. The connection between the sun temples and the funerary temples expressed the very ancient ideology of the Egyptian kingship and promoted the power of the kings over their own economic establishments, both during their lifetime, when they built the temples and after their death when their cult was maintained.

¹ The excavations of the Deutsche Orientgesellschaft lead by Ludwig Borchardt in the early 20th century concentrated above all on the pyramid complexes of Sahure, Neferirkare and Niuserre.

² The excavations of the Czech(oslovak) Institute of Egyptology, Faculty of Arts, Charles University in Prague, led by Zbyněk Žába and Miroslav Verner since the 1960s, explored the south part of the pyramid field, and also the west and south part of the site.

³ Excavations of the Supreme Council of Antiquities, led by Zahi Hawass in 1994 and Tarek El Awady since 2002, have examined part of the area of the causeway of Sahure.

⁴ See P. Posener-Kriéger and J-L. de Cenival, *Hieratic Papyri in the British Museum. Fifth Series. The Abu Sir Papyri* (London 1968), P. Posener-Kriéger, *Les archives du temple funéraire de Néferirkare-Kakai (Les papyrus d'Abousir)* (BdE 65/1–2; Le Caire 1976); P. Posener-Kriéger, in M. Verner, *Abusir III. The Pyramid Complex of Khentkaus* (Prague 1995), 133–42; P. Posener-Kriéger, M. Verner and H. Vymazalová, *Abusir X. The Pyramid Complex of Raneferef. The Papyrus Archive* (Prague 2006).

⁵ For the recent works on the sun temples: S. Voß, *Untersuchungen zu den Sonnenheiligtümern der 5. Dynastie* PhD Dissertation, Hamburg Universität (2004); M. Nuzzolo, *I templi Solari e il Concetto di Regalità nella V dinastia* (PhD Dissertation, University of Naples 2010): see also id., ‘The sun temples of the Vth Dynasty’, *SAK* 36 (2007), 217–247; id., ‘Sun Temples and Kingship in the Ancient Egyptian Kingdom’, in C. Cardin and J. C. Goyon (eds), *Proceedings of the IX International Congress of Egyptologists, Grenoble, 6–12 September 2004* (OLA 150; Leuven 2007), 1401–1410; and id., ‘The V Dynasty Sun Temples Personnel: An overview of titles and cult practise through the epigraphic evidence’, *SAK* 39 (2010), 289–312.

⁶ The position of two other sun temples can be surmised from the satellite image made by QuickBird (Digital Globe Inc.), but this idea needs to be confirmed by archaeological exploration. See the images in M. Bárta and V.

Brůna, *The Satellite Atlas of the Pyramids* (Prague 2007).

⁷ Posener-Kriéger *Les archives*, 612, 631–634.

⁸ Posener-Kriéger, *Les archives*, 611, and P. Posener-Kriéger, ‘Les papyrus d’Abousir et l’économie des temples funéraires de l’Ancien Empire’, in E. Lipiński (ed.), *State and Temple Economy in the Ancient Near East: Proceedings of the International Conference Organized by the Katholieke Universiteit Leuven from the 10th to the 14th of April 1978* (OLA 5; Leuven 1979), 142.

⁹ M. I. Khaled, *The Old Kingdom Royal Funerary Domains: New Evidence from the Causeway of the Pyramid Complex of Sahura* (unpublished PhD dissertation, Charles University, Prague 2008), 61.

¹⁰ Khaled, *Royal Funerary Domains*, 62–185.

¹¹ Posener-Kriéger, *Les archives*, 633; Posener-Kriéger, in Lipiński (ed.), *State and Temple Economy*, 143.

¹² Posener-Kriéger, in Lipiński (ed.), *State and Temple Economy*, 143.

¹³ The documents from the pyramid temple of Neferirkare Kakai are introduced in this paper by the name of the king, in order to be clearly distinguished from the documents found in the pyramid temple of Neferefre Izi.

¹⁴ Posener-Kriéger and de Cenival, *HPBM* V, pl. XXXIII–XXXV; Posener-Kriéger *Les archives*, 257–272.

¹⁵ For the meaning of *b3* see J. Janák, ‘A question of size: A remark on early attestations of the *b3* hieroglyph’, *SAK* 40 (2011), in press.

¹⁶ Posener-Kriéger and de Cenival, *HPBM* V, pl. XCVII; Posener-Kriéger *Les archives*, 44–45, 47–50.

¹⁷ Posener-Kriéger and de Cenival, *HPBM* V, pls XXXVI, XLI, XLII, XLIII, XLVI, XLVIII; Posener-Kriéger *Les archives*, 273–278, 290–291, 299–305, 301–305, 307–310, 295–298.

¹⁸ Posener-Kriéger and de Cenival, *HPBM* V, pls XXXVI, XLII, XLIII; Posener-Kriéger *Les archives*, 273–278, 299–305, 301–305.

¹⁹ Posener-Kriéger and de Cenival, *HPBM* V, pls XLVII, XLIX, L, LXIII, XCII; L; LI, LX; Posener-Kriéger *Les archives*, 345–349, 354, 369, 391, 355–359; 331–336; 370–371, 116–118.

²⁰ See Posener-Kriéger, Verner and Vymazalová, *Abusir* X, 385.

²¹ It is possible that a sun temple started by Neferefre was taken over and finished by Niuserre; see Voß, *Sonnenheiligtümer*, 62–63, 153–154.

²² Posener-Kriéger, Verner and Vymazalová, *Abusir* X, 386.

²³ Posener-Kriéger, Verner and Vymazalová, *Abusir* X, 264–266, pl. 47, 48.

²⁴ H. Vymazalová, ‘An extraordinary revenue account from the papyrus archive of Raneferef’, in K. Daoud and S. Abd el-Fatah (eds), *The World of Ancient Egypt. Essays in Honor of Ahmed Abd El-Qader el-Sawi* (Supplément ASAE 35; Cairo 2006), 261–265.

- ²⁵ Posener-Kriéger, Verner and Vymazalová, *Abusir* X, 272, pl. 52.
- ²⁶ Posener-Kriéger, Verner and Vymazalová, *Abusir* X, 289, pl. 66.
- ²⁷ Posener-Kriéger, Verner and Vymazalová, *Abusir* X, 295, pl. 71.
- ²⁸ H. Kees in F. W. von Bissing, *Das Re-Heiligtum des Königs Newoser-re (Rathures) III: Die große Festdarstellung* (Leipzig 1928), Bl. 28–32, no. 427–528.
- ²⁹ W. Helck, ‘Die „Weihschrift“ aus dem Taltempel des Sonnenheiligtums des König Neuserre bei Abu Gurob’, *SAK* 5 (1977), 47–77, Tf. II–III; N. C. Strudwick, *Texts from the Pyramid Age* (Atlanta 2005), 86–91.
- ³⁰ Helck, *SAK* 5 (1977), 77.
- ³¹ H. K. Jacquet-Gordon, *Les noms des domaines funéraires sous l’ancien empire égyptien* (BdE 34; Le Caire 1962), 158–159.
- ³² Helck, *SAK* 5 (1977), 77.
- ³³ Jacquet-Gordon, *Les noms des domaines*, 152–157, 292, 294, 295, 278, 297, 388, 393; Khaled, *Royal Funerary Domains*, 40, 47, 59–60.
- ³⁴ It occurs in the tomb of Khufukhaf in Giza (second half of the fifth dynasty), see Jacquet-Gordon, *Les noms des domaines*, 278.
- ³⁵ Helck, *SAK* 5 (1977), 73–74.
- ³⁶ From the different quantities food ascribed to them in the inscriptions, some comparisons between the scale and importance of the individual festivals can be made; see Helck, *SAK* 5 (1977), 73–74.
- ³⁷ The same indication arises from the text 47–48 A from the archive of the pyramid temple of Neferefre Izi. It contains the record of deliveries of a large amount of products for a festival celebration which must have involved not only the staff of Neferefre’s pyramid temple but maybe the whole necropolis. See Vymazalová, in Daoud and Abd el-Fatah (eds), *The World of Ancient Egypt*, 261–265.
- ³⁸ Nuzzolo, *SAK* 39 (2010), 305.
- ³⁹ Nuzzolo, *SAK* 39 (2010), 305.
- ⁴⁰ Strudwick, *Texts from the Pyramid Age*, 28–29.
- ⁴¹ For example, Inpunefer, whose tomb was discovered in Abusir South served in the pyramid complexes of Niuserre and Neferirkare and in the sun temple of Niuserre. For the false door of Inpunefer and the inscription listing his titles, see M. Bárta, ‘Equal in rank, different in the afterlife. The late Fifth and the late Sixth Dynasty burial chambers in Abusir South’, in L. Evans (ed.), *Ancient Memphis: ‘Enduring is the Perfection’*. *Proceedings of the International Conference held at Macquarie University, Sydney on August 14–15, 2008* (Leuven, forthcoming).
- ⁴² Nuzzolo has shown (*SAK* 39 (2010), 289–312) that a close connection existed in the highest levels of the administration of the sun- and pyramid temples in the period during which the sun temples were built. However, many people active in both kinds of temples are not contemporaries of the

kings who built them.

⁴³ S. Quirke, *The Cult of Ra. Sun-Worship in Ancient Egypt* (London 2001), 128. This has recently been questioned by Verner and Brûna, who have shown that Iunu could not be directly seen from Abu Ghurab due to the Mokattam hill on which the citadel stands today (see Verner and Brûna in this volume).

⁴⁴ Nuzzolo, *SAK* 36 (2007), 238.

⁴⁵ Nuzzolo, *SAK* 36 (2007), 224.

⁴⁶ Nuzzolo saw the second part of kingship in the image of the king as the primeval god Re and in the idea of solar kingship. See the text further below.

⁴⁷ This is reflected in the titles of the people who worked in the sun temples, see F. W. von Bissing, *Das Re-Heiligtum des Königs NeWoser-Re (Rathures) I* (Berlin 1905), 51; and it is also presumed that chapels of Re and Hathor existed in Niuserre's sun temple, see Voß, *Sonnenheiligtümer*, 162–164.

⁴⁸ Quirke, *The Cult of Ra*, 31.

⁴⁹ Nuzzolo, *SAK* 36 (2007), 234.

⁵⁰ The role of Hathor in the sun cult of the creator Re is very well explained in A. Roberts, *Hathor Rising. The Serpent Power in Ancient Egypt* (Totnes 1995), 8–13.

⁵¹ Roberts, *Hathor Rising*, 11–12.

⁵² Queens also played an important role in this scheme, which is why they were so closely connected to Hathor. This role of the queen symbolised her participation in the process as partner of the king (and mother of the future king). The *mrt* sanctuaries were undoubtedly of great importance in this system (see W. Barta, 'Zur Lokalisierung und Bedeutung des *mrt*-Bauten', *ZÄS* 110 (1983), 98–104).

⁵³ See Voß, *Sonnenheiligtümer*, 174–176.

⁵⁴ See F. W. von Bissing, *Das Re-Heiligtum des Königs Ne-woser-re (Rathures) II. Die kleine Festdarstellung* (Leipzig 1923); F. W. von Bissing and H. Kees, *Untersuchungen zu den Reliefs aus dem ReHeiligtum des Rathures I* (München 1922); W. Kaiser, 'Die kleine Hebsed-darstellung im Sonnenheiligtum des Niuserre', in *[Aufsätze] zum 70. Geburtstag von Herbert Ricke* (BeiträgeBf 12; Wiesbaden 1971), 87–105; see also Nuzzolo, *SAK* 36 (2007), 224–229.

⁵⁵ E. Hornung and E. Stahelin, *Neue Studien zum Sedfest* (Aegyptiaca Helvetica 20; Basel 2006).

⁵⁶ Of particular interest is, for instance, Hatshepsut's temple at Deir el-Bahari and especially its 'royal cult complex', which contains many features known from Abu Ghurab and was presented by O. Bialostocka, 'Hatshepsut's regeneration in the Royal Cult Complex of her Temple at Deir el-Bahari', in M. Dolińska and H. Beinlich (eds), *8. Ägyptologische*

Tempeltagung: Interconnections between Temples (Wiesbaden 2010), 13–24. Also interesting are for example the rituals of renewal performed for the divine statues in the complexes of the *wabet* and court in the Ptolemaic and Roman temples, see F. Coppens, *The Wabet: Tradition and Innovation in Temples of the Ptolemaic and Roman Period* (Prague 2008).

⁵⁷ It has been suggested that the enclosures were intended for the cult of the kings (Quirke, *The Cult of Ra*, 118) but the function of the enclosures could be also economic. However, economic and the religious functions were never clearly separated by the ancient Egyptians.

⁵⁸ H. Papazian, 'Perspectives of the cult of Pharaoh during the third millennium B. C.: a chronological overview', in H. Vymazalová and M. Bárta (eds), *Chronology and Archaeology in Ancient Egypt (The Third Millennium B. C.)* (Prague 2008), 61–80.

⁵⁹ See Voß, *Sonnenheiligtümer*, 20–24, who noticed the similarity between the lower temple of Userkaf's sun temple in north Abusir, and the lower (so-called 'valley') temple of Snefru's Bent Pyramid. Both of these temples seem to be connected to the cult of the king and the *sed* festival, i.e. with eternal kingship.

⁶⁰ See Quirke, *The Cult of Ra*, 127.

⁶¹ R. Stadelmann, *Die ägyptischen Pyramiden. Vom Ziegelbau zum Weltwunder* (Kulturgeschichte der Antiken Welt 30; Mainz am Rhein 1991), 125–126 ascribed its construction to Khufu and considered this building the sun temple of Akhet Khufu; some other scholars however consider the temple later than the Sphinx and ascribe it to Khafre, for example, M. Verner, *The Pyramids: Their Archaeology and History* (London 2001), 238–239.

⁶² Nuzzolo, *SAK* 39 (2010), 303.

⁶³ G. Daressy, 'La nécropole des grands prêtres d'Héliopolis sous l'Ancien Empire', *ASAE* 16 (1916), 193–212.

⁶⁴ See also Quirke, *The Cult of Ra*, 106–107.

⁶⁵ Papazian in Vymazalová and Bárta (eds), *Chronology and Archaeology*, 77–79.

⁶⁶ Jacquet-Gordon, *Les noms des domaines*, 24.

⁶⁷ Jacquet-Gordon, *Les noms des domaines*, 23–24.

⁶⁸ Jacquet-Gordon, *Les noms des domaines*, 278.

⁶⁹ H. Schäfer, *Priestergräber und andere Grabfunde vom Ende des Alten Reiches bis zur griechischen Zeit vom Totentempel des Ne-user-re* (WVDOG 8; Leipzig 1908), 9–10.

⁷⁰ Posener-Kriéger, *Les archives*, 517.

⁷¹ L. Borchardt, *Das Grabdenkmal des Nefer-ir-ke3-re* (WVDOG 11; Leipzig 1909), 36–37.

⁷² M. Verner, 'Excavations at Abusir. Season 1980/1981 – Preliminary report', *ZÄS* 109 (1982), 162–163; also M. Verner et al., *Abusir IX. The*

Pyramid Complex of Raneferef. The Archaeology (Prague 2006), 78 and footnote 88 on page 158.

⁷³ Verner et al., *Abusir IX*, 71–78, 106–107.

⁷⁴ Borchardt, *Nefer-ir-ke3-re*, 11–12; 36–37, Verner et al., *Abusir IX*, 107.

⁷⁵ Posener-Kriéger, *Les archives*, 631.

⁷⁶ Posener-Kriéger, in Lipiński (ed.), *State and Temple Economy*, 141.

⁷⁷ The account-table of deliveries Neferefre 47–48 A relates to a festival and not to regular deliveries for Neferefre's funerary temple. See Vymazalová, in Daoud and Abd el-Fatah (eds), *The World of Ancient Egypt*, 261–265.

⁷⁸ P. Posener-Kriéger, ‘Un nouveau bâtiment de Sahourê’, *Studi di Egittologia e di Antichità Puniche* 12 (1993), 7–16; Verner et al., *Abusir IX*, 272–286.

⁷⁹ Verner et al., *Abusir IX*, 105.

⁸⁰ Verner et al., *Abusir IX*, 106–107.

⁸¹ Verner et al., *Abusir IX*, 287.

⁸² Borchardt, *Nefer-ir-ke3-re*, 11–12; 36–37; Verner et al., *Abusir IX*, 71–78, 106–107.

⁸³ Posener-Kriéger, *Studi di Egittologia e di Antichità Puniche* 12 (1993), 7–16 ; Verner et al., *Abusir IX*, 272–286.

⁸⁴ Posener-Kriéger, *Studi di Egittologia e di Antichità Puniche* 12 (1993), 10.

⁸⁵ Posener-Kriéger, in Lipiński (ed.), *State and Temple Economy*, 145.

⁸⁶ Posener-Kriéger and de Cenival, *HPBM V*, pl. V; Posener-Kriéger, *Les archives*, 47–52.

⁸⁷ Verner et al., *Abusir IX*, 87–99.

⁸⁸ Posener-Kriéger, Verner and Vymazalová, *Abusir X*, 347–349.

⁸⁹ Verner et al., *Abusir IX*, 285–287.

⁹⁰ Compare Borchardt in von Bissing, *Re-Heiligtum I*, 46–48 with Verner et al., *Abusir IX*, 98 footnote 7.

⁹¹ von Bissing, *Re-Heiligtum I*, 7–8.

⁹² This was suggested by Verner et al., *Abusir IX*, 98 footnote 7.

The Ancient Egypt Research Associates settlement site at Giza: the Old Kingdom ceramic distribution

Anna Wodzińska

Introduction

Ancient Egypt Research Associates (AERA), directed by Mark Lehner, has been excavating a settlement since 1988 located on the southern edge of the Giza Plateau. Due to very intensive clearance we have at our disposal a large Old Kingdom site very precisely dated to the reign of Menkaure.¹

The site, called Heit el-Ghurab, can be clearly divided into smaller units, areas characterised by different plans and also diverse material cultures. The main components of the settlement are long rectangular galleries built in four regular rows, with adjacent industrial areas where bakeries were discovered. These probably functioned as barracks. Directly to the east, south and west of the galleries are, respectively, the Eastern Town, the Royal Administrative Building (RAB) and the Western Town (Plate 14). The towns are comprised of more or less square houses. The house plans reflect characteristic Egyptian ‘snail-like’ dwellings. The galleries were clearly planned, while the towns appear to have been built without a clear arrangement.²

Late fourth dynasty pottery

In the course of excavations several tons of pottery have been uncovered. Over 200 Old Kingdom pottery types were defined among them.³ The figures at the end of this paper (Fig. 11 to Fig. 14) show the AERA ceramic typology that includes:

Jars:

AB1:white washed storage jars (Fig. 11.1)⁴

AB2:red slipped, probably storage jars (Fig. 11.2);⁵

AB4: ovoid handmade beer jars (Fig. 11.3);⁶

AB7: large marl storage/transport jars (Fig. 11.4);⁷

Bowls:

CD1, CD2, CD3: red slipped serving dishes (Fig. 12.1–3);⁸

CD6:red slipped carinated ‘Meidum’ bowls (Fig. 12.4);⁹

CD7:white washed carinated bowls (Fig. 12.5);¹⁰

CD20, CD21: hole-mouthed vessels – probably cooking pots (Fig. 12.6–7);¹¹

CD22: large basins known from tomb depictions as vessels used during bread making and beer brewing (Fig. 12.8);¹²

CD25: large vats utilised during making dough for bread (Fig. 13.1);¹³

CD32: bowls with internal ledges (Fig. 13.2);¹⁴

Stands:

E1: tall and E2 low stands (Fig. 13.3–4).¹⁵

Bread moulds:

flat bread trays – F1A: round (Fig. 14.1) and F1C: oval (Fig. 14.2);¹⁶

also conical moulds, F2, known in three sizes: F2A: 12–14 cm in diameter; F2B (Fig. 14.3): 18–20 cm in diameter; F2C (Fig. 14.4): the largest is approximately 35 cm in diameter and 35 cm in height.¹⁷

Pottery distribution

I will focus on the distribution of pottery in five areas of the site that characterise the main types of occupation.

1. Gallery III.4
2. The Eastern Town House (ETH)
3. The Royal Administrative Building (RAB), an area located to the south of the galleries between Eastern and Western towns.

4 and 5. The Pottery Mound (PM), a discard area, and AA, a pedestal building within the Western Town.

Each of the selected areas show different patterns of ceramic distribution that reflect diverse activities such as bread making, perhaps beer brewing, cooking, storing/presenting of food, and finally consumption. I will attempt to answer the following questions. Why were white carinated bowls used by workmen? Where do red slipped vessels occur and for what were they used? Why are beer jars found in such large numbers in the Western Town? Is their

presence connected to beer brewing or only beer consumption? Who might have drunk so much beer? And, who produced the massive amounts of bread, especially the very large loaves of bread?

In terms of relative frequencies the site can be characterised mostly by bread moulds (F), that form almost 50% of the entire ceramic material (see Fig. 1);¹⁸ followed by bowls (CD – 24%, mainly white and red carinated bowls); jars (AB – 19%, commonly beer jars); and stands (E – 3%).

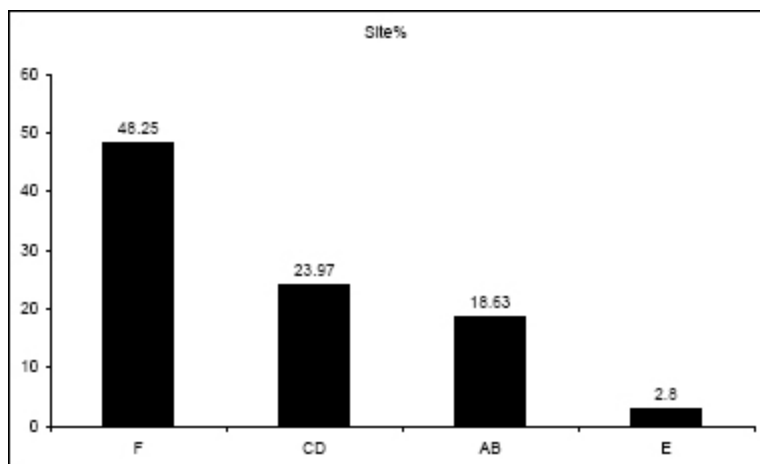


Fig. 1: Relative frequencies of main pottery classes from the Heit el-Ghurab settlement: AB: jars, CD: bowls, E: stands and F: bread moulds

Galleries and bakeries

Gallery III.4 is one of the long rectangular spaces with the entrance located at the main street to the north and small rooms to the south.¹⁹ The gallery can be generally described as place where many large conical bread moulds were found (see Fig. 2).²⁰ These bread moulds (see Fig. 14.4) are larger than the average moulds known from the late fourth Dynasty. The pots were used during baking of very large loaves of bread.

The presence of a large amount of bread moulds is also characteristic of bakeries discovered in 1991 (see Fig. 3).²¹ The bakeries are located in the vicinity of the galleries and were probably the place of bread baking for the galleries' inhabitants.²²

Both the bakeries and the galleries contained large vats (see Fig. 13.1), conical bread moulds (Fig. 14.3–4), flat bread trays (oval and rounded) (Fig. 14.1.–2), bowls with internal ledges (Fig. 13.2), and so on. Moreover white carinated bowls (CD7, Fig. 12.5) are found in large quantities in galleries and bakeries as well. Their shapes are very similar to red, so-called Maidum, carinated bowls (Fig. 12.4) but they seem to be unique to certain settlements connected to communities of workmen, that is Giza or Sheikh Said in

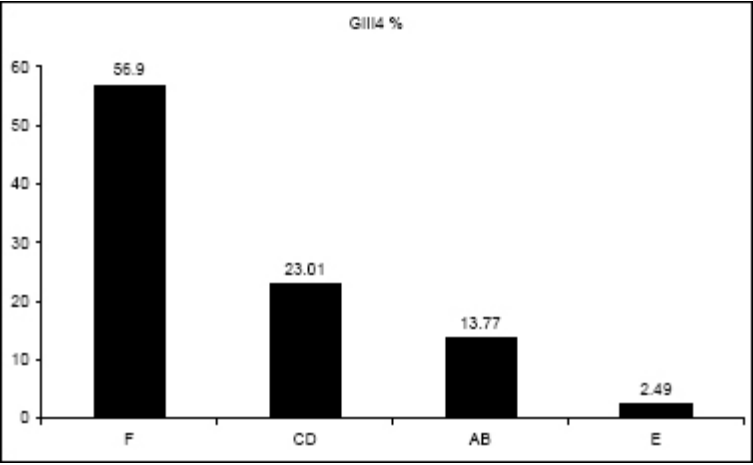


Fig. 2: Relative frequencies of main pottery classes from the Gallery III.4: AB: jars, CD: bowls, E: stands and F: bread moulds

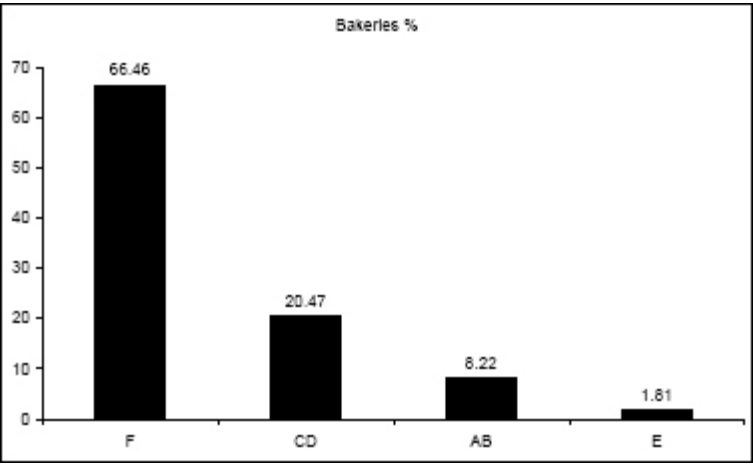


Fig. 3: Relative frequencies of main pottery classes from the Bakeries excavated in 1991: AB: jars, CD: bowls, E: stands and F: bread moulds

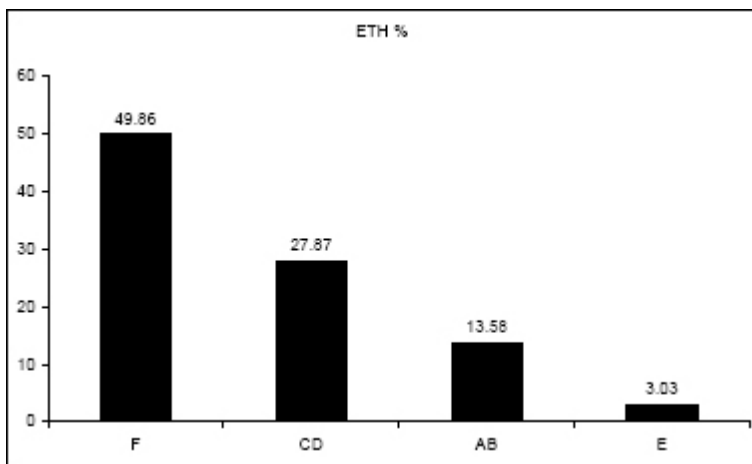


Fig. 4: Relative frequencies of main pottery classes from the Eastern Town House: AB: jars, CD: bowls, E: stands and F: bread moulds

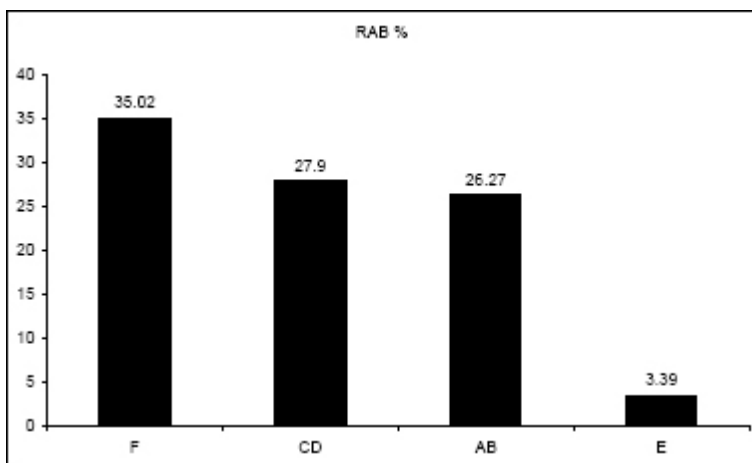


Fig. 5: Relative frequencies of main pottery classes from the Royal Administrative Building: AB: jars, CD: bowls, E: stands and F: bread moulds

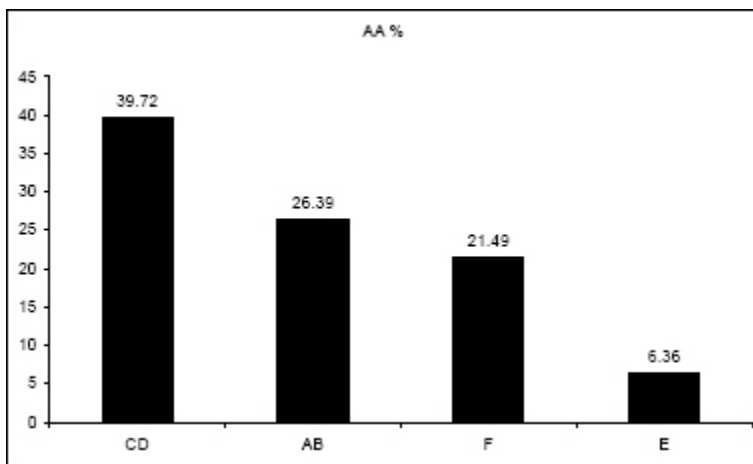


Fig. 6: Relative frequencies of main pottery classes from area AA: AB: jars, CD: bowls, E: stands and F: bread moulds

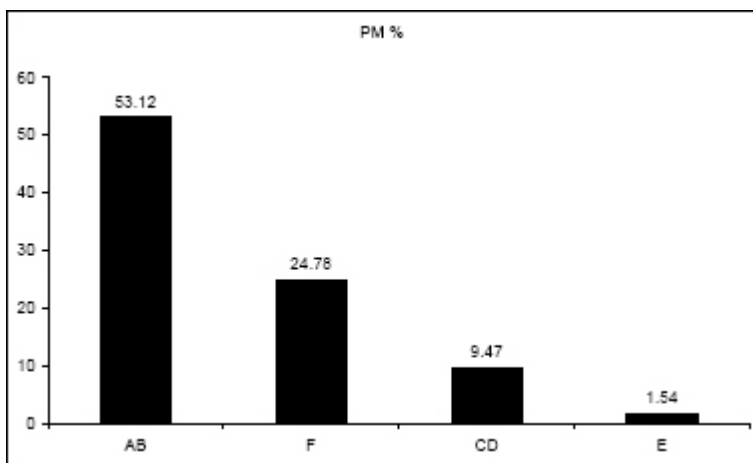


Fig. 7: Relative frequencies of main pottery classes from the Pottery Mound: AB: jars, CD: bowls, E: stands and F: bread moulds

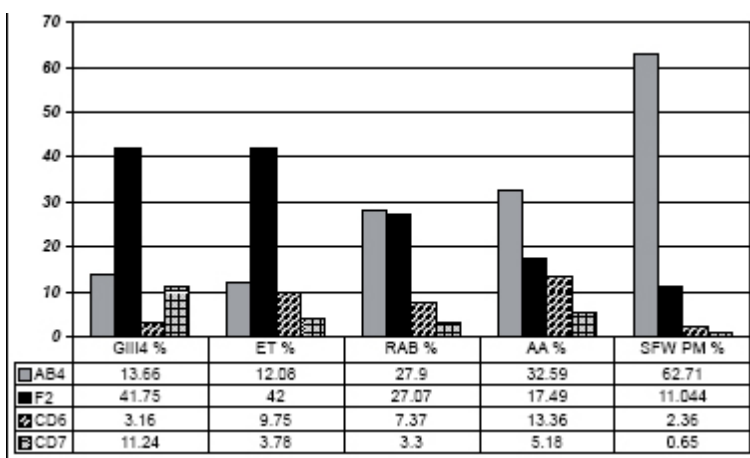


Fig. 8: Relative frequencies of AB4: beer jars, CD6: red carinated bowls, CD7: white carinated bowls, and F2: conical bread moulds in different areas of the Heit el-Ghurab settlement

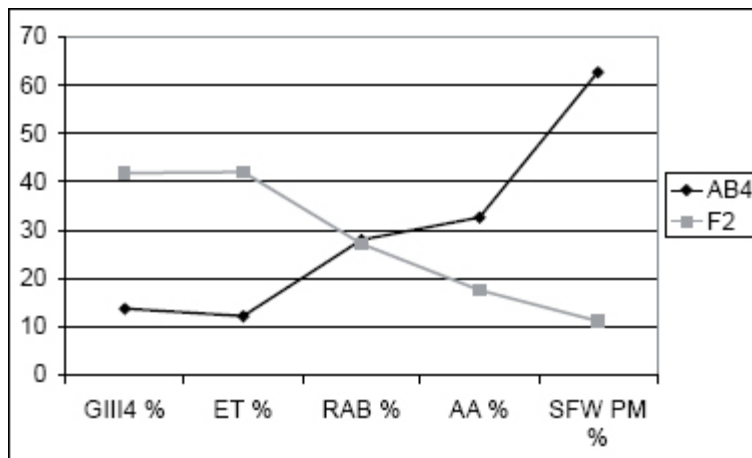


Fig. 9: Relative frequencies of AB4: beer jars and F2: conical bread moulds in different areas of the Heit el-Ghurab settlement

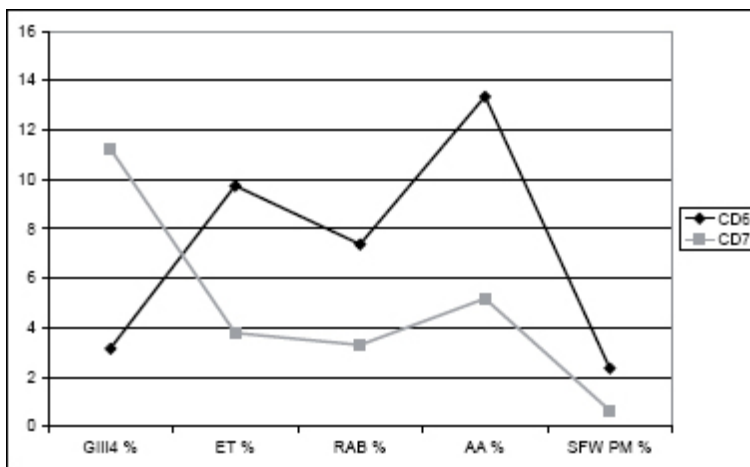


Fig. 10: Relative frequencies of CD6: red carinated and CD7: white carinated bowls in different areas of the Heit el-Ghurab settlement

The Eastern Town House

The Eastern Town, located to the east of the galleries, consisted of more or less uniform square houses. One of them, the so-called Eastern Town House (ETH), has been fully excavated.²⁴

Pottery from the ETH was generally characterised by a large number of bread moulds (see Fig. 4), especially medium size conical moulds (F2B), coming from the early phases.²⁵ They indicate that bread production was performed in the industrial quarter of the house and outside in the open space of the courtyard and two rooms connected to it.

A significant number of bowls and jars suggest food preparation and storage. Food could have been prepared inside the house, especially in industrial rooms. The significant number of white carinated bowls (CD7) found in the courtyard perhaps indicates the consumption of food not inside the house but outside. Internal rooms could have been used as storage facilities as well. Furthermore, three large storage jars were placed in the ground of the house courtyard, which could have served as an additional storage facility.

It seems that the ETH was perhaps a self-sufficient unit where one family lived. The house is built in such a way that it appears to have contained industrial rooms associated with food preparation/storage, a domestic core where the family slept, and an open space where the food was partly produced and partly consumed by only one family.

The Royal Administrative Building

The so-called Royal Administrative Building (RAB), the largest excavated part of the site, is located to the south of the Eastern Town and south-east of the galleries. Extensive work in the area between 2002 and 2008 revealed twelve successive strata of construction, occupation, remodelling and abandonment within two main phases connected to two structures (Structural Complex 1 and 2) built one on top of another, in the western part of the area.²⁶ The later building, Structural Complex 1 was connected to the place where large silos were constructed in the south-eastern corner of the entire complex. Between the so-called Western Rooms and silos a large courtyard was revealed.

Ceramics from the Royal Administrative Building are generally characterised by almost equal numbers of bread moulds, jars and bowls, with a slight predominance of bread moulds (see Fig. 5). The situation changes if we look at the pottery distribution in subsequent phases.

I will present only two phases here – 5 and 7Gi – showing occupation of Structural Complex 1 connected to the construction and functioning of silos.²⁷

The occupation layers of the Royal Administrative Building do not contain many ceramic pots/fragments. Even if the floor deposits were very poor when the original room contents were removed at some point, some patterns can be observed.

Phase 5 represents the first occupation stage of Structural Complex 1. The most interesting structure within phase 5 was discovered in room 6 which seems to be an obvious kitchen installation. It took the form of a limestone bordered hearth with large spouted basin (CD22, see Fig. 12.8) placed near it, accompanied by two other pot emplacements, one of which contained a base of an AB1 storage jar, while the other was empty. One of the deposits appears to function as setting for a shallow bowl, perhaps used as a plate for preparation of food.

CD22 basins are known from numerous representations found in Old Kingdom tombs and they always appear in beer-brewing/bread-making contexts. In the context described here, the CD22 basin was not used as a vessel for pouring since it was placed in the ground. It still could have been utilised as a mixing vat for any food cooked in the nearby hearth.

Three pots, a medium sized bread mould (F2B) and two beer jars (AB4), were set in the ground in the southwestern corner of room 6 of phase 7Gi. A cut placed next to them may represent another pot emplacement, possibly containing a shallow serving plate (for example, CD1 or CD2: Fig. 12.1–2). The activity in room 6 of phase 7Gi appears to be different than in the previous occupation phases. A relatively larger quantity of bread moulds and beer jars found in the area of a hearth might indicate small-scale bread baking and beer brewing.

The Royal Administrative Building is very difficult to categorise.

According to the pottery, it seems that some activities can be recognised as small-scale bread baking and beer brewing. Cooking is confirmed in room 6. Most of the beer jars probably came from the Western Town. Some of the bread moulds can be perhaps connected to bread making in the gallery complex. Various plates and bowls probably reflect the consumption of food – food that was for the most part brought here from outside.

The area was clearly associated with silos, but the silos themselves did not contain any pottery fragments.

The Western Town

The Western Town is located in the south-eastern part of the site and it is represented by area AA and SFW PM (Pottery Mound). Area AA, located in the Western Town, is a peculiar place consisting of a large space filled with rectangular pedestals. Directly to the north, two ovens were discovered associated with a small bakery.²⁸ SFW PM, the so-called Pottery Mound, was clearly a discard area, probably for the Western Town.²⁹

Area AA generally contained many bowls – 39.72%, mainly red slipped, used during the preparation and serving of food (see Fig. 6). The second most frequent pots of area AA are jars – especially beer jars – 26.39%. Bread moulds (totalling 21.49%), medium size moulds (F2B) in particular, were also used there, although bread baking was not the major activity performed in the area.

The Pottery Mound (PM) consisted mostly of jars, especially beer jars (60% of the PM ceramic material) (see Fig. 7). Bread moulds were also present here (25.82%) and, similarly to area AA, they indicate a small-scale bread making in the Western Town.

Comparison between the selected areas

The comparison between the selected areas is based on four of the most characteristic types: AB4 – beer jar; CD6 – red carinated ‘Maidum’ bowl; CD7 – white carinated bowl; and F2 – conical bread mould. Fig. 8, Fig. 9 and Fig. 10 show a general comparison between these over the areas of Gallery III.4, ETH, RAB, AA and PM. Some interesting patterns can be observed.

Bread moulds are most common in the galleries and the Eastern Town House. Their number is gradually smaller towards the south. Beer jars are the most frequent in the Western Town, PM in particular. There are gradually fewer beer jars towards the north. White carinated bowls occur in great quantities in the galleries, and red carinated bowls are typical for area AA. They do not occur in large numbers in PM.

The white carinated bowls are very rare vessels, known only in two places in Egypt, Giza and Sheikh Said in Middle Egypt. At Giza they are especially connected to the gallery complex. Their production was massive and probably standardised. It has been suggested that they were a special product manufactured upon request.³⁰ They were neither cooking pots nor long-term storage containers. It seems that they were used on a daily basis as bowls for consumption of food by the galleries' inhabitants, namely workmen involved in construction activities at the Giza plateau.

Large loaves of bread were produced especially in the gallery complex. A series of bakeries made bread for the workmen housed in the galleries. Loaves were very large in order to produce more bread. The high number of bread moulds found in the galleries and bakeries show how much bread was needed. Bread appears to have been the main component of the workmen's diet.

Red slipped vessels, on the other hand, are more popular in towns outside the gallery complex. There are various bowls and plates, but especially significant appear to be red carinated bowls, the so-called Maidum bowls (CD6). These ceramic containers occur in greater quantity in the Western Town in particular. It seems that they represent not only different activities (cooking, short and long term storage) but also the higher status of people who used them. Those bowls were used by individuals, probably high officials, living in large houses.

Large numbers of beer jars found in the Western town indicate a great need for beer. Empty jars do not necessarily represent beer brewing in the Western Town. It seems beer was consumed there on a large scale but the exact place of beer production is not known. Is it area AA?

Similarly to the red carinated bowls, beer jars are a sign of the high status of people living in the Western Town. Beer jars are also known in other Heit el-Ghurab areas, but the Western Town is the place where they are especially common.

Conclusions

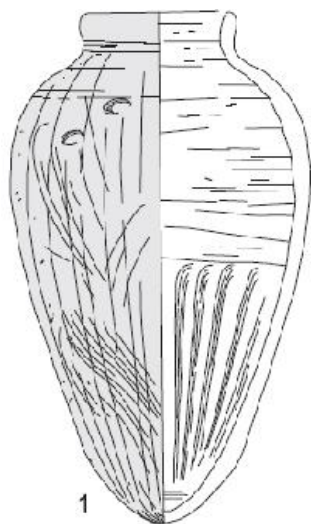
In conclusion we can say that ceramics from the AERA site are similar to the pottery known from other Old Kingdom sites in Egypt. The specific AERA settlement is characterised by a lack of pottery found *in situ*. However in spite of such difficulties it is possible to describe the occurrence and use of ceramic vessels across the site. Workmen housed in the galleries ate large amounts of bread baked in large conical moulds from the local bakeries. They also used white carinated bowls as serving containers. On the other hand, people living in the Eastern and Western towns – perhaps higher officials – used generally better table ware, especially many red slipped and

well-polished bowls and plates. Their food must have tasted better with the perhaps locally brewed beer kept in the numerous beer jars.

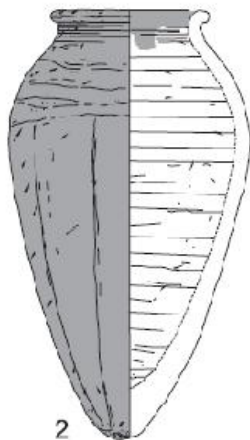
Acknowledgments

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I also would like to express my gratitude to Włodzimierz Godlewski and Kazimierz Lewartowski from the Institute of Archaeology, University of Warsaw, for understanding the value of ancient ceramics.

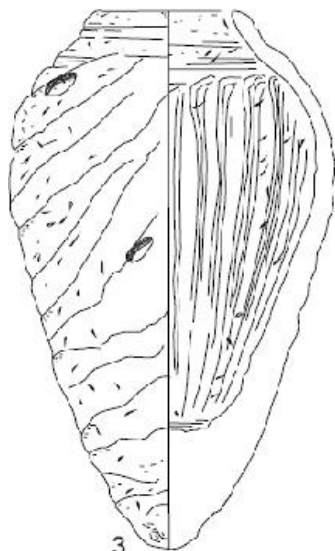


1

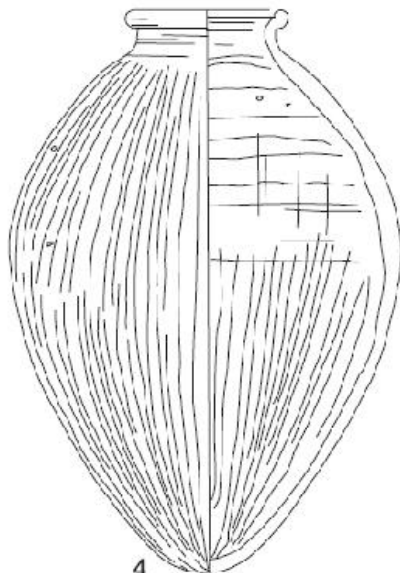


2

0 5 10 cm



3



4

Fig. 11: The most common jars from the Heit el-Ghurab settlement; 1: AB1, 2: AB2, 3: AB4, 4: AB7. Light grey colour indicates white wash, dark grey: red slip

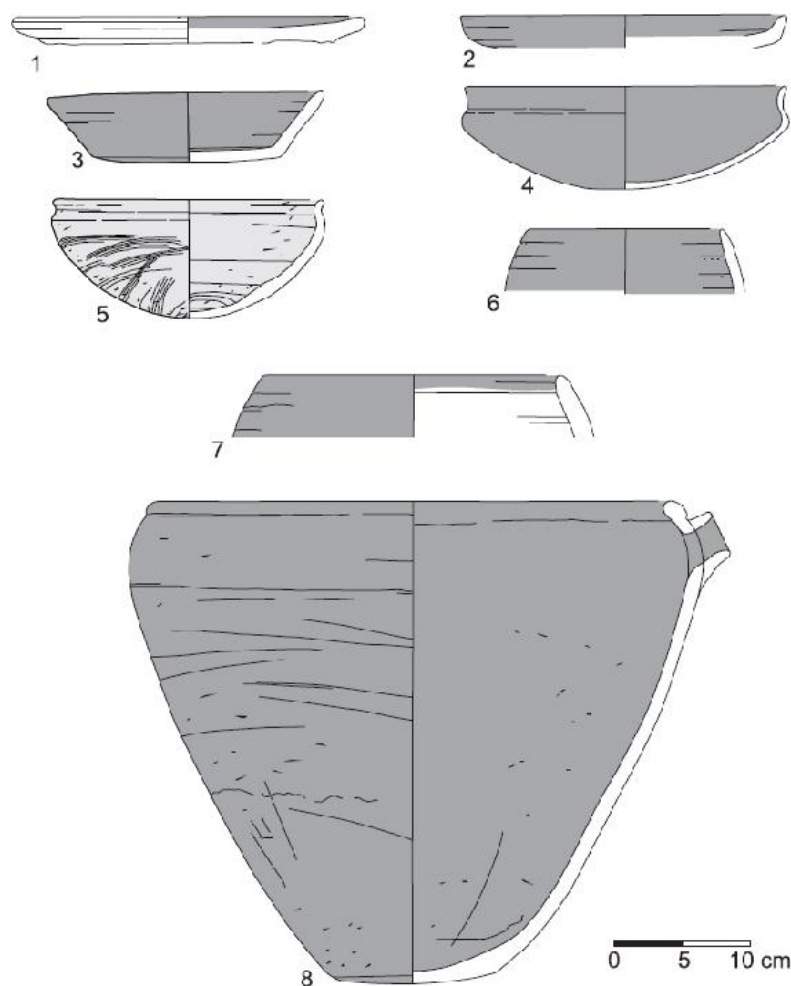


Fig. 12: The most common bowls from the Heit el-Ghurab settlement; 1: CD1, 2: CD2, 3: CD3, 4: CD6, 5: CD7, 6: CD20, 7: CD21, 9: CD22. Light grey colour indicates white wash, dark grey: red slip

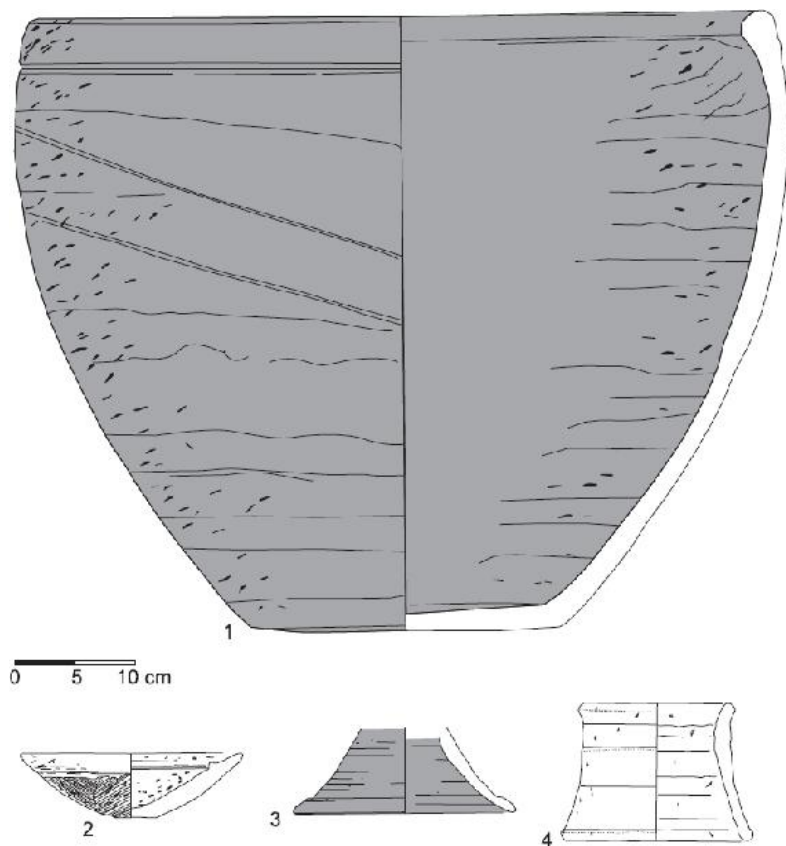


Fig. 13: The most common bowls and stands from the Heit el-Ghurab settlement; 1: CD25, 2 –CD32, 3: E1,4: E2. Dark grey colour indicates red slip

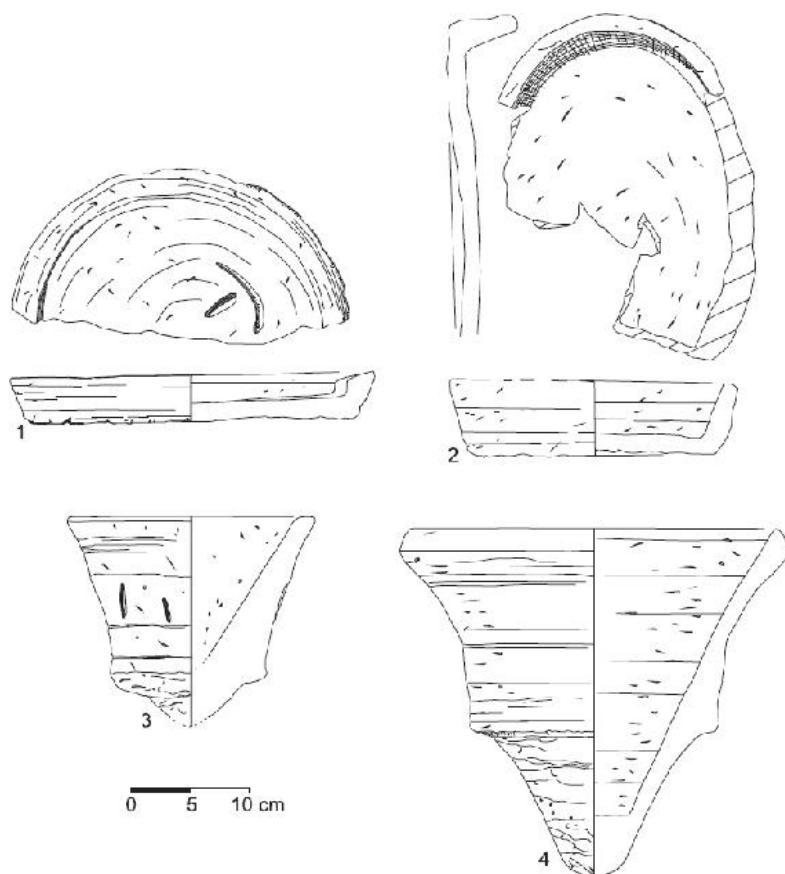


Fig. 14: Flat trays and conical bread moulds from the Heit el-Ghurab settlement; 1: F1A, 2: F1C, 3: F2B, 4: F2C

¹ M. Lehner, 'The Pyramid Age Settlement of the Southern Mount at Giza', *JARCE* 39 (2002), 34; M. Lehner, 'Introduction', in M. Lehner and W. Wetterstrom (eds), *Project History, Survey, Ceramics, and the Main Street and Gallery III.4 Operations, Giza Reports. The Giza Plateau Mapping Project I* (Boston 2007), 46–47.

² For more information on the Heit el-Ghurab settlement see Lehner, *JARCE* 39 (2002), 27–74; Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*. See also the contribution of Ana Tavares in this volume.

³ A. Wodzińska, 'Preliminary Ceramic Report', in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 275–315.

⁴ *ibid*, 295.

⁵ *ibid*, 295–296.

⁶ *ibid*, 296–297.

⁷ *ibid*, 297–298.

⁸ *ibid*, 298–299.

⁹ *ibid*, 299.

¹⁰ For further information on the white carinated bowls from Giza see A. Wodzińska, 'White Carinated Bowls (CD7) from Giza Plateau Mapping Project. Tentative Typology, Use and Origin', in M. Bárta, F. Coppens, and J. Krejčí (eds), *Abusir and Saqqara in the Year 2005, Proceedings of the International Symposium, Prague 27–30 June 2005* (Prague 2006), 405–429; Wodzińska in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 299–300; A. Wodzińska, 'White Carinated Bowls and Dating of the Giza Plateau Mapping Project Site', in M. Bárta and H. Vymazalová (eds), *Chronology and Archaeology in Ancient Egypt (the Third Millennium B.C.)* (Prague 2008), 111–123.

¹¹ Wodzińska, in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 300–301.

¹² *ibid*, 301.

¹³ *ibid*, 303–304.

¹⁴ *ibid*, 304–305.

¹⁵ *ibid*, 308–309.

¹⁶ *ibid*, 306.

¹⁷ *ibid*, 306–307.

¹⁸ All diagrams presented in the text do not include ceramic fragments, usually very small, which cannot be classified as jars, bowls, stands or bread moulds.

¹⁹ A. Abd el-Aziz, 'Gallery III.4 Excavations', in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 193–234; M. Lehner, 'Introduction to Gallery III.4 Excavations', in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 185–192.

²⁰ A. Wodzińska, 'Ceramics from Gallery Set III.4', in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 229–237.

²¹ Lehner, in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 24–27.

²² *ibid*, 43.

²³ Stefanie Vereecken, personal communication.

²⁴ D. Hounsell and E. Hancox, 'The Eastern Town House', *Ancient Egypt Research Associates internal reports* (Cairo 2004). Publication of the ETH excavations is currently in preparation by Freya Sadarangani.

²⁵ A more detailed report on the ceramics from the Eastern Town House is currently in preparation by the present author.

²⁶ Lehner, *JARCE* 39 (2002), 59–64; Lehner, in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 45; F. Sadarangani, 'Area BB Data Structure Report. Integrated BB Material – Covering 2002, 2004, 2005, 2006 and 2007 Excavations', *Ancient Egypt Research Associates internal reports* (Cairo 2007). Full publication of the area excavations is currently in preparation by Freya Sadarangani.

²⁷ A more detailed report on ceramics from the Royal Administrative Building is currently under preparation by the author.

²⁸ Lehner, in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 21–23; J. Taylor, ‘AA’, *Ancient Egypt Research Associates internal reports* (Cairo 2007).

²⁹ Y. Kawae and T. Björk, ‘Soccer Field West. Pottery Mound’, *Ancient Egypt Research Associates internal reports* (Cairo 2005); Lehner, in Lehner and Wetterstrom (eds), *The Giza Plateau Mapping Project I*, 45.

³⁰ A. Wodzińska, ‘White Carinated Bowls (CD7) from Giza Plateau Mapping Project. Tentative Typology, Use and Origin’, in M. Bárta, F. Coppens, and J. Krejčí (eds), *Abusir and Saqqara in the Year 2005, Proceedings of the International Symposium, Prague 27–30 June 2005* (Prague 2006), 420.

zšš w3d scenes of the Old Kingdom revisited

Alexandra Woods

In Old Kingdom tomb and temple decoration, representations of the king, queen or tomb owner in the marshlands of Egypt can be grouped into five major scene types. These include the major figure on a pleasure cruise, fowling, spearing fish, or in rare cases hunting hippopotami, as well as being engaged in an activity labelled the *zšš w3d*.¹ Although depictions of the king engaged in a hippopotamus hunt or spearing fish can be traced back to the Pre- and Early Dynastic Periods,² the earliest preserved scenes of the major figure in a marsh theme date to the fourth dynasty. Queen Meresankh II³ appears in a pleasure cruise scene, while Meresankh III [1]⁴ and Hetepheres are depicted in a *zšš w3d* scene.

A *zšš w3d* scene typically represents a male or female figure standing on a papyrus boat above a band of water with a papyrus thicket positioned either directly in front of the figure or forming a ‘wall’ of stems stretching behind the figure. Usually the scene contains only one major figure, although two are depicted in the scenes in the tombs of Meresankh III [1] at Giza and Mereruka [16] at Saqqara.⁵ Female major figures can be shown grasping a stem from the papyrus thicket without detaching it at the base,⁶ whereas male figures are normally represented in a striding posture, holding one papyrus stem in the thicket and a ‘detached’ stem above their head.⁷ In contrast to the spear-fishing and fowling scenes that are commonly attested in elite tombs, the major figure in a *zšš w3d* scene is rarely depicted in the Old Kingdom.⁸ A total of twenty-two scenes are attested in royal and elite contexts dating from the late fourth dynasty to the early sixth dynasty in the Memphite cemeteries of Giza, Saqqara and Abusir South in addition to the provincial cemeteries of el-Hammamiya, Sheikh Said and Deir el-Gebrawi (Table 1).⁹ In order to gain a clearer understanding of the possible function and importance of the scene's inclusion in an Old Kingdom temple or tomb, an overview of the hieroglyphic inscriptions, artistic principles of

representation and previous interpretations of the scene type will now be presented.

In an attempt to understand the action represented, scholars have examined either the accompanying hieroglyphic inscriptions or the artistic conventions employed by the artist to compose the scene. The inscriptions associated with several examples describe the action as *zšš wšd*,¹⁰ the translation of which has caused some debate in the literature with the following having been presented: 'sorting out' / 'tearing out' / 'pulling out' or 'rattling papyrus'.¹¹ The inscriptions in several tombs are extended to mention the goddess Hathor, *zšš wšd n ḥwt-ḥr* or *zšš wšd n ḥwt-ḥr m phw-w*, which has caused some to propose that the scene represents some form of ceremony, ritual or rite of passage dedicated to Hathor. While the function of the event is uncertain, several scholars have suggested it was to guarantee the tomb owner's fertility,¹² to ensure a pleasurable experience in the afterlife,¹³ or as a 'rite of passage' undertaken after the so-called 'call to Hathor' (that is, the pleasure cruise).¹⁴ In contrast, the potential religious symbolism in the scene has also been highlighted, suggesting the scene's inclusion has erotic overtones,¹⁵ symbolises rebirth and rejuvenation,¹⁶ and is linked to the mythical primordial swamp.¹⁷ However, it should be noted that many of these interpretations are based on textual and artistic evidence dating to periods later than the Old Kingdom.

Equally, a utilitarian function has been proposed by Vandier who stresses a direct link between *zšš wšd* scenes and traditional fowling scenes, where the posture of the figures suggest they are shaking the papyrus to cause fowl to fly out of the thicket in preparation for a bird hunt.¹⁸

The artistic conventions utilised by the artists have also been considered in an attempt to understand the posture of the major figure, with some scholars suggesting the ceremony involved the complete removal, tearing out or throwing of the papyrus stems from the thicket.¹⁹ Such an interpretation is based on examples of male tomb owners like Nebemakhet [2], Khaef-Khufu II [6], Iasen [11] who are shown holding a 'detached' stem above their head. However, examination of modern examples of papyrus (*Cyperus papyrus*), a perennial aquatic plant found along the banks of streams and shallow bodies of water, has highlighted the difficulty of disassociating the stem from the thicket's extensive root system.²⁰ Therefore, interpretations centred on the major figure completely removing stems from the thicket (that is, 'tearing out, pulling out or throwing papyrus') may not be as likely as a ritual of 'sorting out or rattling papyrus' dedicated to Hathor. Such an interpretation may also be supported by the associations between the sound of the rustling or rattling papyrus stalks and that of a naos-shaped sistrum (*zšš*), which was closely linked to the goddess Hathor even in the Old Kingdom.²¹

The geographical location of the proposed *zšš wšd* ceremony dedicated to Hathor remains rather elusive and the texts accompanying the scenes of

Meresankh III [1], Iasen [11] and Khenut [14] only state the activity occurred in the *phw-w* ‘marshlands’.²² However, inscriptions in the tomb of Fetekta [19] at Abusir South provide an insight into the location of the marshlands.²³ On the west wall of Fetekta's chapel are four large river-going vessels as well as a smaller one perhaps bringing supplies. Due to the placement of the scene on the west wall, the actual direction of the boats can be determined: the two vessels to the left are shown to have their sails down and therefore travelling north, which is supported by the accompanying inscriptions *hw-t m hdi r zšš wšd hw-t-hr nfr-t* ‘Coming downstream to *zšš wšd* for the beautiful Hathor’, while the two vessels to the right have their sails up and are accordingly travelling south, which is confirmed by the associated texts *hw-t m hšft m-h-t zšš wšd hw-t-hr nfr-t nb(-t) nb-t* ‘Coming upstream after *zšš wšd* for the beautiful Hathor, Mistress of the Sycamore’. The texts and positioning of the sails indicate the forward journey is to the north to perform the so-called *zšš wšd* ceremony or ritual, while the vessels took advantage of the north wind on the return journey south to Memphis.²⁴ Lashien has recently examined the orientation of the *zšš wšd* scenes and the few named destinations, such as those in the chapel of Fetekta [19] mentioned above, to propose a direct connection between representations of the ceremony and voyages by ship to the Delta region.²⁵ Furthermore, Lashien proposes that the *zšš wšd* ceremony formed an integral part of a pilgrimage to the Delta, which was undertaken only once by certain individuals, involving the inspection of their funerary estate (*pr-d-t*) in the north and concluding with a visit to the cemetery to view the arrival and placement of their funerary equipment in the tomb.²⁶ The possibility that the inclusion of the *zšš wšd* ceremony in a tomb recorded *one specific event* in the life of a restricted group of individuals is certainly intriguing and deserves further consideration.

The following paragraphs will investigate the individuals who appear to have performed the *zšš wšd* ceremony and accordingly depicted the event in their tomb. The tomb owner's gender, position within the Egyptian administration and/or priesthood, family background and placement of the scene in the decorative programme where preserved will now be considered.

1. Gender and representation of the major figure

Over two hundred and fifty examples of marsh scenes are attributed to the Old Kingdom, yet there are only fourteen preserved scenes depicting a female major figure. The majority of marsh scenes are found in tombs belonging to male officials, although this may be due to the limited number of preserved tombs belonging to women in this period.²⁷ Furthermore,

women are only shown engaged in certain marsh activities, namely, the *zšš wsd* ceremony and a pleasure cruise.²⁸ Distinct differences in the representation of each gender in a *zšš wsd* scene are also apparent. For example, female major figures are only ever shown grasping stems from the thicket whereas male major figures often hold one papyrus stem in the thicket and a ‘detached’ stem above their head.²⁹ Male figures are predominantly depicted in a *striding* posture (with their front foot flat on the boat deck and their back foot raised to the ball of the foot),³⁰ while females in a *zšš wsd* scene are represented wearing a tight fitting dress standing with their legs placed firmly together.³¹ However, it should be conceded that it is difficult to assess whether these specific modes of gender representation indicate any difference in the *zšš wsd* ritual for male and females or is simply evidence of decorum in Egyptian art.³²

2. Position in the administration and priesthood

The offices held by individuals with *zšš wsd* scenes in their tomb decoration range considerably and include those related to the priesthood of various king's pyramids and pyramid towns, the governance of the palace precinct and to the service of the king as well as high administrative positions. Certainly, there is no correlation between the inclusion of this scene and a position within the priesthood of Hathor, with only Meresankh III [1] and Iufi [20] possessing such titles. Where males are the principal figure in the scene, their wives are designated as *hm-t-ntr hw-t-hr* and are frequently depicted (at a reduced scale) accompanying their husbands.³³

3. Family background

Many *zšš wsd* scenes are encountered in tombs of individuals who are of royal descent, particularly in those dating from the late fourth to the mid-fifth dynasty at Giza and el-Hammamiya. All six female major figures engaged in the *zšš wsd* ritual can be directly connected to the royal family and are referred to as one of the following: *mw-t nsw-t*,³⁴ *nsw-t*³⁵ or *ss-t nsw-t n(.t) h-t=f*.³⁶ Equally, several male officials shown undertaking this activity are of royal background and are designated as *s nsw-t n(.y) h-t=f*, such as Nebemakhet [2], or can be linked to the royal family through examination of their parental lineage.³⁷ Certainly, after the reign of Niuserre in the mid-fifth dynasty all the officials with this scene in their tomb appear to be of non-royal background, which coincides with the introduction of spear-fishing and fowling scenes in elite tombs at Saqqara and Giza.³⁸

Finally, the *zšš wšd* scenes in the tombs of Meresankh III [1] at Giza and Mereruka [16] at Saqqara are the only representations in the Old Kingdom showing two major figures in a marsh scene. In Meresankh III's [1] scene, her mother Hetepheres, clearly of royal descent as she is described as *šm-t nsw-t bi-ty hww=f*, is an *active figure* and grasps two stems from the thicket. This is in contrast to Mereruka's [16] passive role where he is shown standing and holding a staff, while his wife princess Seshseshet is the active figure grasping two stems from the thicket. Mereruka's apparent exclusion from the activity may indicate that the *zšš wšd* ritual was particularly associated with royal women (wives, mothers or daughters of the king), even during the early sixth dynasty.

4. Placement of the scene

The unique nature of the event may also be reflected in the placement of each example in the tomb's decorative scheme. The *zšš wšd* scene is often located near elements highlighting royal descent such as titles (such as *hmt nsw-t*) or adjacent to scenes showing strong royal iconography such as a throne. In addition, *zšš wšd* scenes appear to have been separated from the (presumably) more commonly represented and frequently undertaken activities of the tomb owner spearing fish, catching birds or on a pleasure cruise. For example, the tombs of Ti [13], Kaiemankh [10] and Mereruka [16] all include several marsh themes in their tomb, but in each instance the *zšš wšd* scene is placed in a separate room.

Summary

Many scholars have attempted to interpret the significance of *zšš wšd* scenes with varying opinions and conclusions. The inscriptions associated with the scene and the iconography seem to indicate that the *zšš wšd* ritual probably involved the 'sorting or rattling of papyrus' rather than 'tearing out, pulling out or throwing papyrus' in the Nile Delta for the goddess Hathor. The ritual may have formed part of a pilgrimage to several sites in the Delta region followed by a visit to the necropolis to view the introduction of funerary equipment to the tomb, and potentially represent one specific event in the lives of these individuals. While the ceremony was performed by the elite of Egyptian society, it was not exclusive to members of Hathor's priesthood, and appears to be associated with royal women (mothers, wives, and daughters of the king) as well as several male individuals of royal decent until the mid-fifth dynasty. Curiously, the inclusion of a *zšš wšd* scene in elite tomb decoration showing the major figure drops out of favour after the sixth dynasty and is frequently attested in royal temple decoration in later

periods, perhaps indicating that the significance of the ritual and the purpose of including the scene in Old Kingdom temple and tomb decoration was fundamentally different.

Table 1: List of tombs depicting a *zšš wšd* scene dating to the Old Kingdom

	Tomb Owner	Major figure's Gender	Assigned Date	Cemetery	Reference
[1]	Mesmenkh III	Female	IV.4-6	Giza	D. Dunham and W.K. Simpson, <i>The Mastaba of Queen Mesmenkh III: G7540-7549</i> (Giza Mastabas 1; Boston 1974), 9-10, fig. 4.
[2]	Neschemakhet	Male	IV.4-6	Giza	J.D II, pl. 12b.
[3]	Seneb	Male	V.2	Giza	H. Junker, <i>Gebirgen auf dem Friedhof des Alten Reiches bei den Pyramiden von Giza V</i> (DA WW 71/2/Vienna 1941), 65-67, fig. 15.
[4]	Kaher-Ptah	Male	V.M	Giza	T. Kendall, 'An unusual Rock-cut tomb at Giza', in W.K. Simpson, W.M. Davis (eds), <i>Studies in Ancient Egypt, the Aegean and the Sudan: Essays in honor of Donald Dunham on the occasion of his 90th Birthday, June 1, 1980</i> (London 1981), 107, fig. 11.
[5]	Iymery	Male	V.6	Giza	K.R. Weeks, <i>Mastabas of Cemetery G6000: G 6010 (Nefertemphak), G 6030 (Iymery), G 6020 (Iry), G 6040</i> (Giza Mastabas 5; Boston 1994), 41, fig. 33.
[6]	Khaef-Khufu II	Male	V.6	Giza	W.K. Simpson, <i>The Mastabas of Khaef, Khafkha I and II</i> (Giza Mastabas 3; Boston 1978), 74-75, fig. 47.
[7]	Irtisen	Male	V.6	Giza	S. Hassan, <i>Excavations at Giza V</i> (Cairo 1946), 267-268, pl. 37.
[8]	Kaiedua	Male	V.6-	Giza	S. Hassan, <i>Excavations at Giza VI</i> [II] (Cairo 1950), 99-100, fig. 80.
[9]	Kapt	Male	V.6-7	Giza	A.M. Roth, <i>A Cemetery of Palace Ancesters, including G 2084-2095, G 2230-2231 and G 2240</i> (Giza Mastabas 6; Boston 1995), 101, fig. 156.

[10] Kaemankh	Male	V.8–9E	Giza	N. Kanawati, <i>Tombs at Giza I: Kaemankh (G4561) and Sedismesfer I (G4946)</i> (ACE Reports 16; Warminster 2001), 39–46, pl. 36.
[11] Isen	Male	V.8L–9	Giza	W. K. Simpson, <i>Manuscripts of the Western Cemetery, Part I: Siebruneh (G 10250), Ijeia I (G 2601), Isen (G 2156), Penemer (G 2197), Hegg Neferjenera, and Herwenet (G 235/353); Djaty, Tyeta II, and Ninosa (G 2337, N. 2343, 2365)</i> (Giza Manuscripts 4; Boston 1980), 20–12, fig. 30.
[12] Khweswet	Male	V.9	Giza	LD 11, pl. 43a.
[13] Ti	Male	V.6–8	Sagqara	L. Égypte and F. Daumas, <i>Le Tombeau de Ti: Funéculé I: Les approches de la chapelle</i> (Cairo 1939), pl. 46.
[14] Khenut	Female	V.9	Sagqara	P. Munro, <i>Der Untere Friedhof Nord-West Topographisch-historische Einleitung: Das Doppelgrab der Königtöchter Nebet und Khenut. I</i> (Mainz/Rhein 1993), 52–53, pl. 33.
[15] Neher	Female	V.9	Sagqara	P. Munro, <i>Der Untere Friedhof Nord-West</i> , 53–56, fig. 1, pl. 10.
[16] Meresut wife Sedmesbet as the major figure	Female	VI.1M–L	Sagqara	P. Duell, <i>The Mastaba of Meresut</i> (OIP 31 and 33; Chicago 1936), II, pls 127–129.
[17] Ankhes-Meryne II	Female	VI.2	Sagqara	J. Lédant, A. Minault-Gout, 'Touilles et travaux en Égypte et au Soudan (1998–1999)', <i>Orientalia</i> 69 (2000), 245, pl. 17–18.
[18] Horemheb fragments	Male	VI	Provenance: Sagqara	H. D. Schneider, <i>The Memphite Tomb of Horemheb, Commander-in-Chief of the Armies</i> . In: <i>A Catalogue of the Finds</i> (EES Memoir 60; London 1996), 85, pl. 91.
[19] Teteketa	Male	V.6–	Abusir South	M. Bárta, <i>Abusir. V: the Cemeteries of Abusir South I</i> (Prague 2001), 80–85, fig. 3.12, pl. 81.
[20] Kaikheset I: wife Iufi as the major figure	Female	V.E–M	el-Hammama	A. El-Khouli and N. Kanawati, <i>The Old Kingdom Tombs of el-Hammama</i> (ACE Reports 2; Warminster 1990), 35–36, pls 35–37.
[21] Wadimut	Male	V.9	Sheikh Said	N. de G. Davies, <i>The Rock Tombs of Sheikh Said</i> (ASE 10; London 1901), 73, pls 11–12.
[22] Hemsu/Iufi I	Male	VI.1L–2E	Deir el-Gebrawi	N. de G. Davies, <i>The Rock Tombs of Deir el-Gebrawi II</i> (ASE 12; London 1907), 23–23, pl. 17.

¹ For the classification of marsh scenes see also G. A. Reisner, *A History of the Giza Necropolis I* (Cambridge MA 1942), 353–358; Y. Harpur, *Decoration in Egyptian Tombs of the Old Kingdom: Studies in Orientation and Scene Content* (London 1987), 140–141; PM III², 903–905. For a recent study of marsh scenes found in royal reliefs and elite tombs dating to the Old Kingdom see A. Woods, *A 'Day in the Marshes': A Study of Old Kingdom Marsh Scenes in the Tombs of the Memphite Cemeteries* (PhD thesis, Macquarie University 2007), forthcoming.

² A. Behrmann, *Das Nilpferd in der Vorstellungswelt der Alten Ägypter* (2 vols, Frankfurt-Bern 1989), I, Docs. 9a, 21, 22a, 24f, 25a, 34, 53a–b, 54a–b. For a survey of surviving royal reliefs that represent marsh pursuits see A. Ćwiek, *Relief Decoration in the Royal Funerary Complexes of the Old Kingdom: Studies in the Development, Scene Content and Iconography* (Unpublished PhD Thesis, Institute of Archaeology, University of Warsaw 2003), 218–223.

³ W. S. Smith, *A History of Egyptian Sculpture and Painting in the Old Kingdom* (London 1946, reprint New York 1978), 168, fig. 63.

⁴ All Old Kingdom tombs containing a *zSS wAD* scene are referred to with a number in square brackets and listed in a table appended to the article (Table 1). The assigned dates have been formulated by the writer and

abbreviated to follow the king's reigns after Harpur, *Decoration*, 34.

⁵ The latter example shows his wife, Seshseshet, as an active figure at the front of the boat with Mereruka standing behind her holding a staff and a small figure of his mother, Nedjet-em-Pet, kneeling on the deck in between the two major figures. See P. Duell, *The Mastaba of Mereruka* (OIP 31 and 39; Chicago 1938), II, pls 127–129.

⁶ See for example, Meresankh III [1], Iufi [20], Seshseshet [16] and Ankhnes-Meryre II [17]. The only instance of a male figure shown grasping stems from the thicket can be seen in the tombs of Seneb [3] at Giza and Ti [13] at Saqqara.

⁷ See the tombs of Nebemakhet [2], Kaher-Ptah [4], Khaef-Khufu II [6], Itisen [7], Kaiedua [8], Kaiemankh [10], Iasen [11], Khuwerwer [12], Weririeni [21]. The stem has been often confused as a type of spear or stick. See for example, Smith, *History of Egyptian Sculpture and Painting*, 178; S. Hassan, *Excavations at Giza V: 1933–1934* (Cairo 1944), 267; E. Feucht, 'Fishing and Fowling with the Spear and Throw-stick Reconsidered', in U. Luft (ed.), *The Intellectual Heritage of Egypt Studies presented to László Kákossy by friends and colleagues on Occasion of his 60th Birthday* (Studia Aegyptiaca 14; Budapest 1992), 160.

⁸ Although the scene type is represented in temples of the New Kingdom and Late Period, the composition and orientation of the scene appears to differ significantly. For an outline of the inscriptional and artistic evidence in all periods see W. Wettengel, 'Zu den Darstellungen des Papyrusraschelns', *SAK* 19 (1992), 323–338.

⁹ Two scenes have been added to the list compiled in the *Oxford Expedition to Egypt: Scene Details Database* available at <http://www.oxfordexpeditiontoegypt.com/>, namely those of Kaher-Ptah [4] and Kapi [9] at Giza. The dating of the tombs of Kaher-Ptah, Seneb and Kaiemankh have been revised. For a discussion of the dating of the latter two tombs, see A. Woods, 'A date for the tomb of Seneb at Giza: Revisited' in A. Woods, A. McFarlane, and S. Binder (eds), *Egyptian Culture and Society: Studies in Honour of Naguib Kanawati* (2 vols, Cairo 2010), II, 301–331; A. Woods, 'Contribution to a controversy: A date for the tomb of Kaiemankh at Giza', *JEA* 95 (2009), 161–174.

¹⁰ For the scenes with specific descriptions see the tombs of Meresankh III [1], Seneb [3], Fetekta [19], Iasen [11], Khenut [14] and Hemre/Isi I [22].

¹¹ See also the *zšš wsd* entry in *Wb* III, 486; R. Hannig, *Ägyptisches Wörterbuch, I: Altes Reich und Erste Zwischenzeit* (KAW 98=HL 4; Mainz am Rhein 2003), 1243–1244. For an excellent discussion of potential translations see Wettengel, *SAK* 19 (1992), 326–328; H. Altenmüller, 'Der Himmelaufstieg des Grabherrn: Zu den Szenen des *zšš wsd* in den Gräbern des Alten Reiches', *SAK* 30 (2002), 4–7.

¹² A. Hermann, *Altägyptische Liebesdichtung* (Wiesbaden 1959), 15–19; Wettengel, *SAK* 19 (1992), 333.

¹³ Y. Harpur, 'zšš wsd Scenes of the Old Kingdom', *GM* 38 (1980), 57–59. See also P. Montet, 'Hathor et les Papyrus', *Kémi* 14 (1957), 104–105; T. Säve-Söderbergh, *The Old Kingdom Cemetery at Hamra Dom (El-Qasr wa Es-Saiyad)* (Stockholm 1994), 67; M. Baud, *Famille royale et pouvoir sous l'Ancien Empire égyptien* (2 vols, BdE 126; Cairo 1999), I, 132–134; L. Störk, 'Erotik', *LÄ* II, 7; P. Munro, *Der Unas-Friedhof Nord-West I: Topographisch-historische Einleitung: Das Doppelgrab der Königinnen Nebet und Khenut* (Mainz am Rhein 1993), 111–114.

¹⁴ J. Vandier, *Manuel d'archéologie égyptienne IV: Bas-Reliefs et Peintures: Scènes de la vie quotidienne* (Paris 1964), 738–740; P. Montet, *Scènes de la vie privée dans les tombeaux égyptiens de l'Ancien Empire* (Strasbourg 1925), 328–330; Montet, *Kémi* 14 (1957), 102–108; Munro, *Unas-Friedhof* I, 95–118.

¹⁵ Störk, *LÄ* II, 4–11; P. Derchain, 'La perruque et le cristal', *SAK* 2 (1975), 55–74. On the erotic overtones of the scenes refer to P. Derchain, 'Symbols and Metaphors', *RAIN* 15 (1976), 8–10; L. Manniche, *Sacred Luxuries: Fragrance, Aromatherapy, and Cosmetics in Ancient Egypt* (New York 1999), 103–106.

¹⁶ Such an interpretation is based on the scene's close association with the funerary procession and the occurrence of the phrase zšš wAD in PT 388a. See Harpur, *GM* 38 (1980), 57. The link with the funerary procession is also emphasised by Montet, *Kémi* 14 (1957), 102–108. For a discussion of the Pyramid Text entry, see Wettengel, *SAK* 19 (1992), 334–336.

¹⁷ G. Robins, *Women in Ancient Egypt* (London 1993), 187–189; Wettengel, *SAK* 19 (1992), 323–338; P. Germond and J. Livet, *An Egyptian Bestiary: Animals in Life and Religion in the Land of the Pharaohs*, (London 2001), 99–101; H. Altenmüller, 'Nilpferd und Papyrusdickicht', *BSEG* 13 (1989), 9–21.

¹⁸ Vandier, *Manuel* IV, 745, fig. 418g. See also H. Balcz, 'Zu den Szenen der Jagdfahrten im Papyrusdickicht', *ZÄS* 75 (1939), 32–38; D. Dunham, 'A "Palimpsest" on an Egyptian Mastaba Wall', *AJA* 39 (1935), 304.

¹⁹ Harpur, *GM* 38 (1980), 57; K. Sethe, 'Das Papyruszepter der ägyptischen Göttinnen und seine Entstehung', *ZÄS* 64 (1929), 6–9; H. Junker, *Gîza IV: Die Mastaba des KAjmanx (Kai-em-anch)* (DAWW 71/1; Vienna 1940), 77–81.

²⁰ Hermann, *Altägyptische Liebesdichtung*, 15–19; P. Kaplony, 'Der Schreiber, das Gotteswort und die Papyruspflanze. Mit neuen Untersuchungen zum unterägyptischen Königtum', *ZÄS* 110 (1983), 159–165; Montet, *Kémi* 14 (1957), 102–108. For a discussion on the Egyptian artist's unique method of representing the papyrus thicket, see L. Evans, *Animal Behaviour in Egyptian Art: Representations of the Natural World in Memphite Tomb Scenes* (ACE. Studies 9; Oxford 2010), 43–44.

²¹ Balcz, *ZÄS* (1939), 32–38; F. Daumas, 'Les objets sacrés de la déesse Hathor à Dendera', *RdE* 22 (1970), 63–78; C. Ziegler, 'Sistrum', *LÄ* V,

959–963; M. Reynders, ‘*ss-t* and *sh-m*: names and types of the Egyptian Sistrum’, in W. Clarysse, A. Schoors and H. Willems (eds), *Egyptian Religion: The Last Thousand Years. Studies Dedicated to the Memory of Jan Quaegebeur* (OLA 84; Leuven 1998), 1013–1026. The earliest evidence of a connection between the sistrum and Hathor dates to the sixth dynasty, as seen in the alabaster sistrum dedicated by king Teti to Hathor (C. Ziegler, ‘Sistrum Inscribed with the name of King Teti’ in Do. Arnold (ed.), *Egyptian Art in the Age of the Pyramids: Metropolitan Museum of Art Catalogue* (New York 1999), 450–451 (182); N. de G. Davies, ‘An Alabaster Sistrum Dedicated by King Teti’, *JEA* 6 (1920), 69–72; R. A. Gillam, ‘Priestesses of Hathor: Their Function, Decline and Disappearance’, *JARCE* 32 (1995), 227–231). For an analysis of the sistrum’s meaning and connection to Hathor in the Old Kingdom and later see H. G. Fischer, ‘The Cult and Nome of the Goddess Bat’, *JARCE* 1 (1962), 14–15; L. Manniche, ‘The Cultic Significance of the Sistrum in the Amarna Period’ in Woods, McFarlane and Binder (eds), *Egyptian Culture and Society* II, 13–26.

²² Hannig, *Ägyptisches Wörterbuch* I, 468–469, 1243–1244, 1281–1282.

²³ For a discussion of this scene, see M. Bárta, *Abusir V: The Cemeteries of Abusir South I* (Prague 2001), 80–85, fig. 3.12, pl. 81.

²⁴ Also suggested by Harpur, *GM* 38 (1980), 58.

²⁵ M. Lashien, ‘The so-called Pilgrimage in the Old Kingdom: its destination and significance’, *BACE* 20 (2009), 87–106.

²⁶ Lashien, *BACE* 20 (2009), 102–103.

²⁷ Robins, *Women in Ancient Egypt*, 164–166; V. G. Callender, ‘A contribution to the burial of women in the Old Kingdom’, in F. Coppens (ed.) *Abusir and Saqqara in the Year 2001, Proceedings of the Symposium, Prague, September 25th–27th, 2001* (Archiv Orientální 70/3 (2002)), 337–350.

²⁸ For a complete list, see the female entries in Table 1 and the pleasure cruise scenes in the following tombs: Meresankh II (Smith, *History of Egyptian Sculpture and Painting*, 168, fig. 63); Iufi (A. ElKhoulī and N. Kanawati, *The Old Kingdom Tombs of El-Hammamiya* (ACE Reports 2; Warminster 1990), 46–47, pls 50–51); Hetepet (W. Wresinski, *Atlas zur altägyptischen Kulturgeschichte* I [Leipzig 1923], pl. 376); Nebet (Munro, *Unas-Friedhof* I, 53–56, pl. 11); Khenut (Munro, *Unas-Friedhof* I, 52–53, pl. 34); Khuit (Z. Hawass, ‘Recent Discoveries in the Pyramid Complex of Teti at Saqqara’, in M. Bárta and J. Krejčí (eds), *Abusir and Saqqara in the Year 2000* (Prague 2000), 430, fig. 11); Neferti (T. Säve-Söderbergh, *Hamra Dom*, 63–67, pls 48b, 49).

²⁹ For a discussion of the postures of the figures see also Altenmüller, *SAK* 30 (2002), 14–23, 35–36.

³⁰ See the examples in the tombs of Iyimery [5], Itisen [7], Kaiemankh

[10], Iasen [11] and Khuwerwer [12] at Giza.

³¹ For distinct differences in the representation of male and female figures, see the tomb of Ihy at Saqqara, which provides an interesting insight into the alterations made to the scene's composition when Ihy's figure was erased and Seshseshet/Idut's was incorporated into the existing tomb decoration. See N. Kanawati and M. Abder-Raziq, *The Unis Cemetery at Saqqara, II: The Tombs of Inefert and Ihy (reused by Idut)* (ACE Reports 19; Oxford 2003), particularly pls 53d, 54.

³² J. Baines, 'Decorum', in J. Turner (ed.), *The Dictionary of Art*, IX (New York 1996), 796.

³³ See the tombs of Nebemakhet [2], Seneb [3], Iyimery [5], Khuwerwer [12], Kaemankh [10] at Giza, Mereruka [16] at Saqqara and Hemre/Isi I [22] at Deir el Gebrawi.

³⁴ See Ankhnes-Meryre II [17] at Saqqara.

³⁵ See Meresankh III [1] at Giza as well as Khenut [14] and Nebet [15] at Saqqara.

³⁶ See Meresankh III [1] and her mother Hetepheres at Giza. This title has been erased from the inscriptions belonging to Kaiekhenet I [20] and less carefully in the case of his wife, Iufi, at El-Hammamiya. See El-Khouli and Kanawati, *El-Hammamiya*, 17–18; E. MartinPardey, *Untersuchungen zur ägyptischen Provinzialverwaltung bis zum Ende des Alten Reiches* (HÄB 1; Hildesheim 1976), 22, n. 3, 87; N. Kanawati, *Governmental Reforms in Old Kingdom Egypt* (Warminster 1980), 115.

³⁷ See for example Khaef-Khufu II [6] (Baud, *Famille Royale* II, 541 [180]) and Iyimery [5] (K. R. Weeks, *Mastabas of Cemetery G6000* (Giza Mastabas 5; Boston 1994), 5–8); Kaiedua [8] (Baud, *Famille Royale* I, 27, n. 105); Ti [13] (Baud, *Famille Royale* I, 20).

³⁸ For a discussion of the architectural and artistic innovations in the reign of Niuserre, see M. Bárta, 'Architectural innovations in the development of the non-royal tomb during the reign of Nyuserre', in P. Jánosi (ed.), *Structure and Significance: Thoughts on Ancient Egyptian Architecture* (DÖAW 33; Vienna 2005), 105–125, pls 1–11.

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Plates

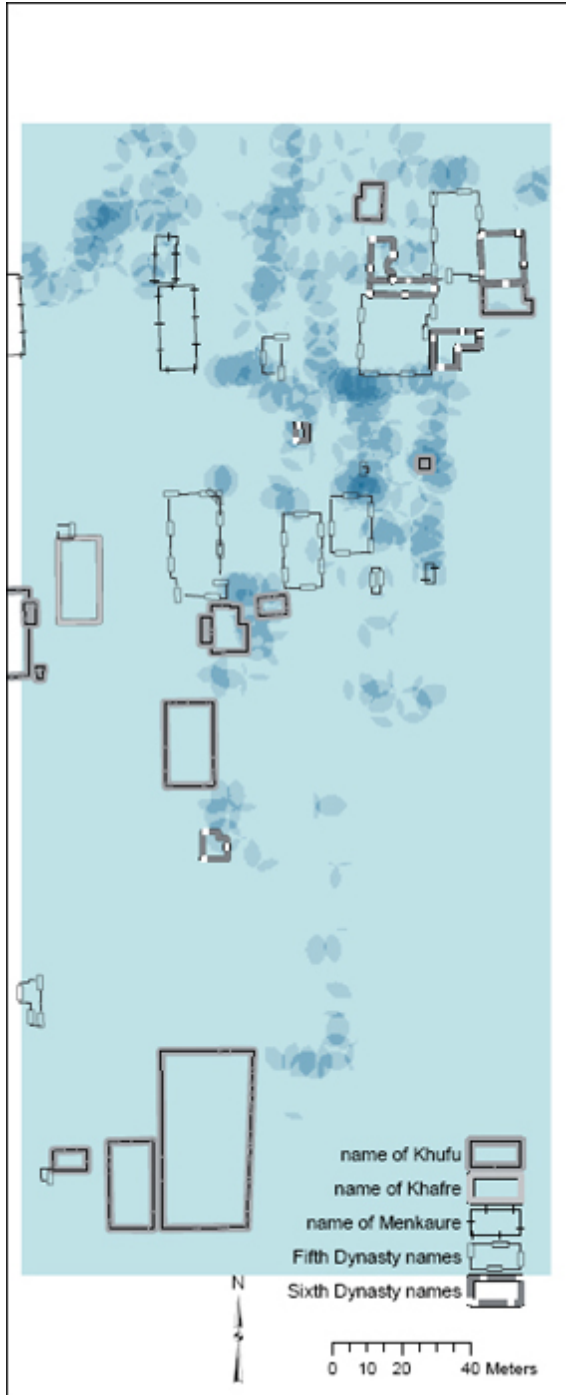


Plate 1: Point density of the Cemetery En Echelon with occurrence of names of kings (Farouk)



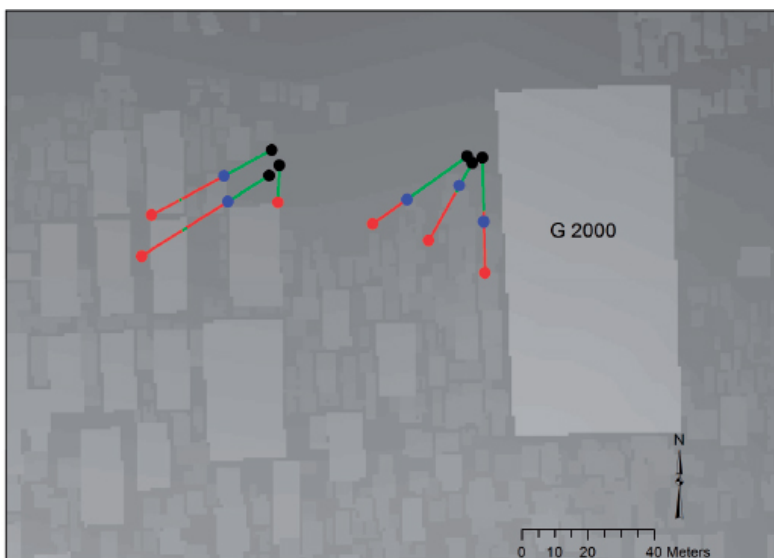


Plate 3: Line of sight of several observer points in cemeteries G 1100, G 1400, G 1600 (Farouk)

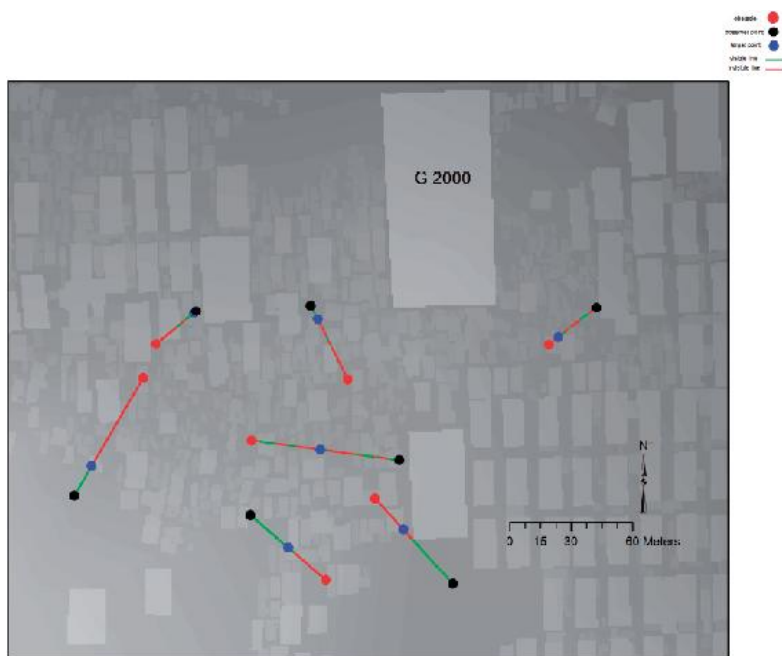
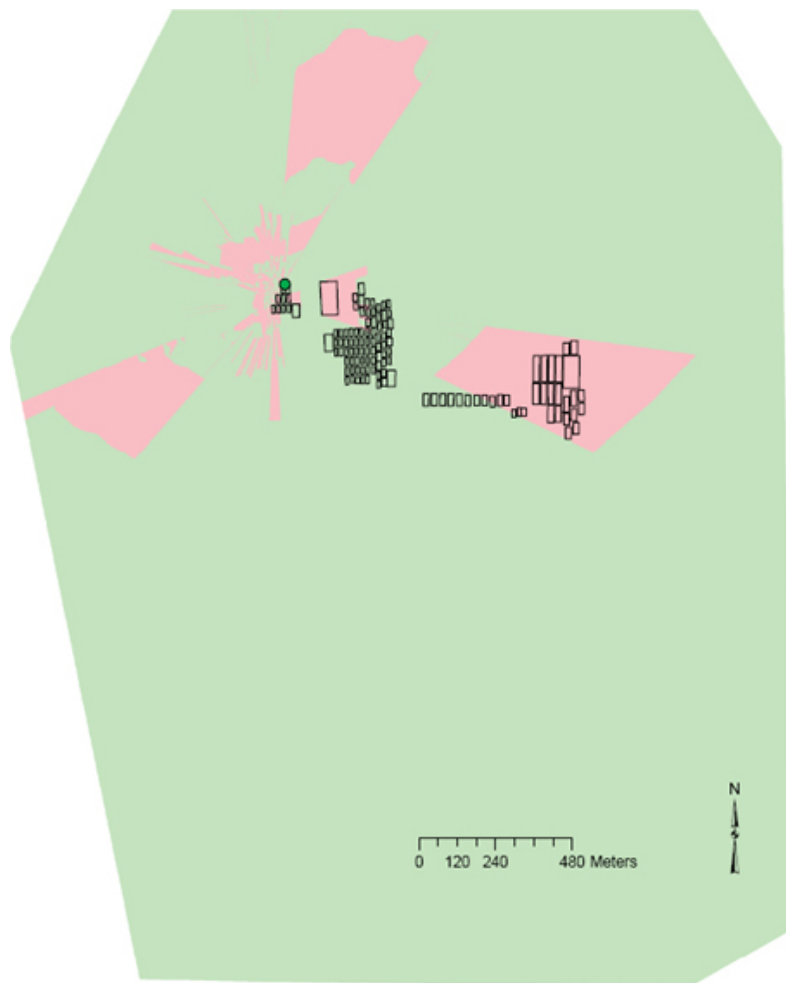


Plate 4: Line of sight of several observer points in the central area of the Western Cemetery (Farouk)



point G 1674 ●

Not Visible 

Visible 

Plate 5: Viewshed analysis of G 1674 (Farouk)

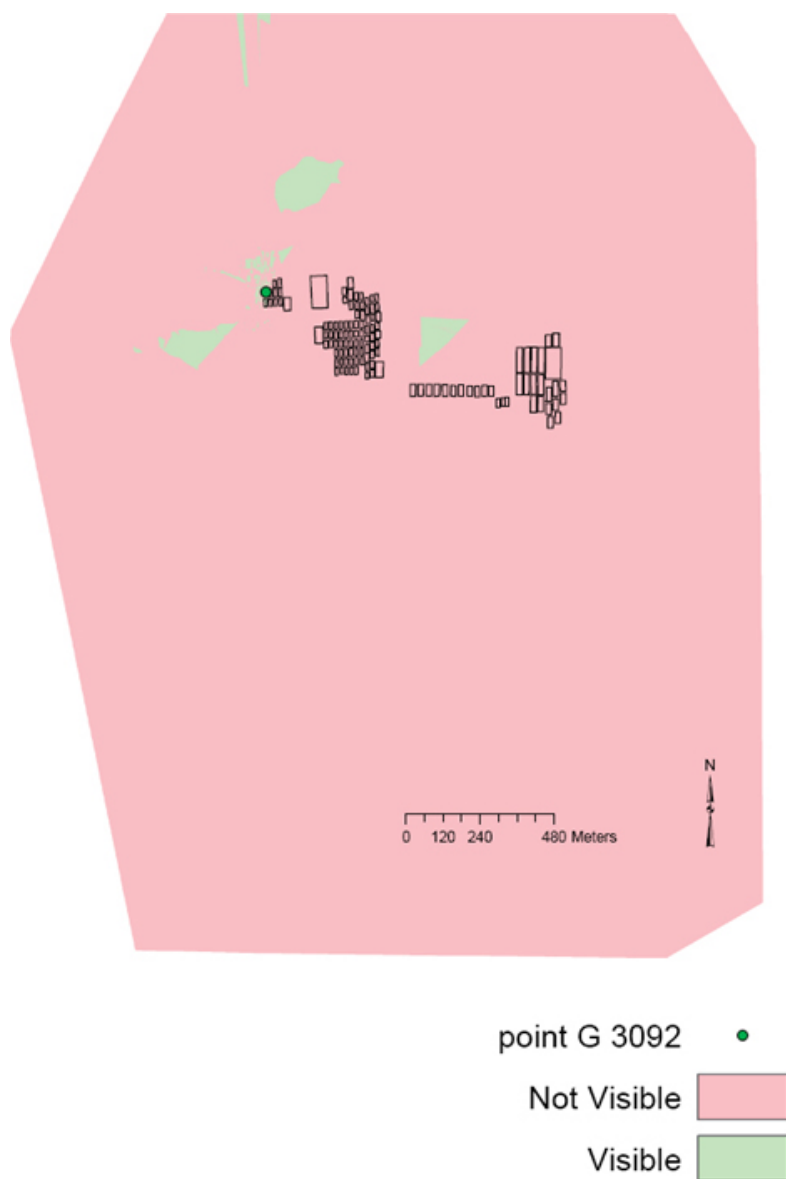


Plate 6: Viewshed analysis of G 3092 (Farouk)

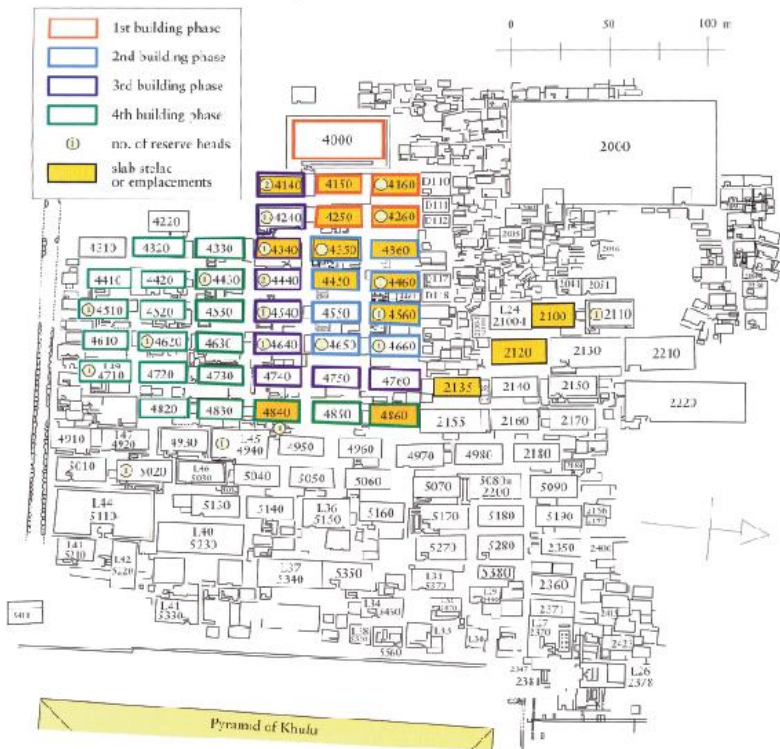


Plate 7: Map of cemeteries 2100, 4000 and 5000 at Giza, showing location of reserve heads and slab stelae / emplacement for the slab stelae (readapted by M. Nuzzolo after Roehrig, in Arnold (ed.), *Egyptian Art*, 76) (Nuzzolo)

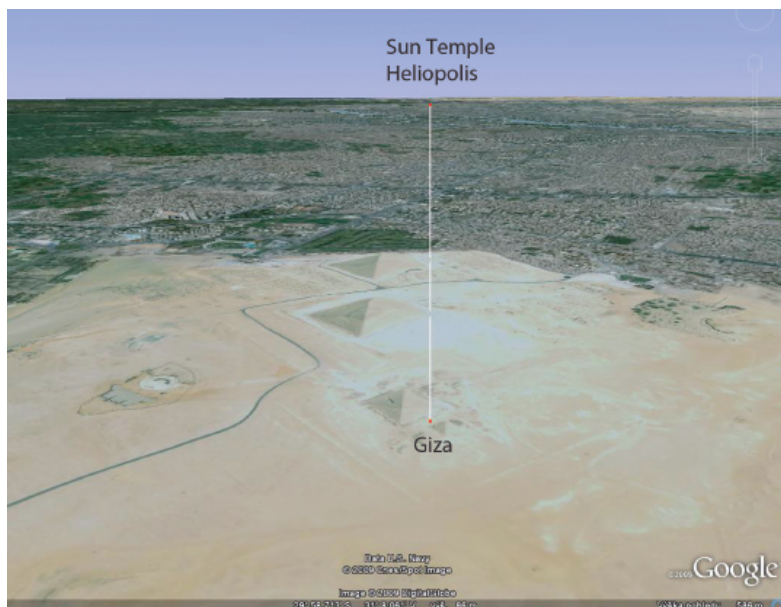


Plate 8: Line linking south-east corners of the Giza pyramids with Heliopolis. The measuring is based on Google Earth. For measurements based on maps see Fig. 3 (Verner)

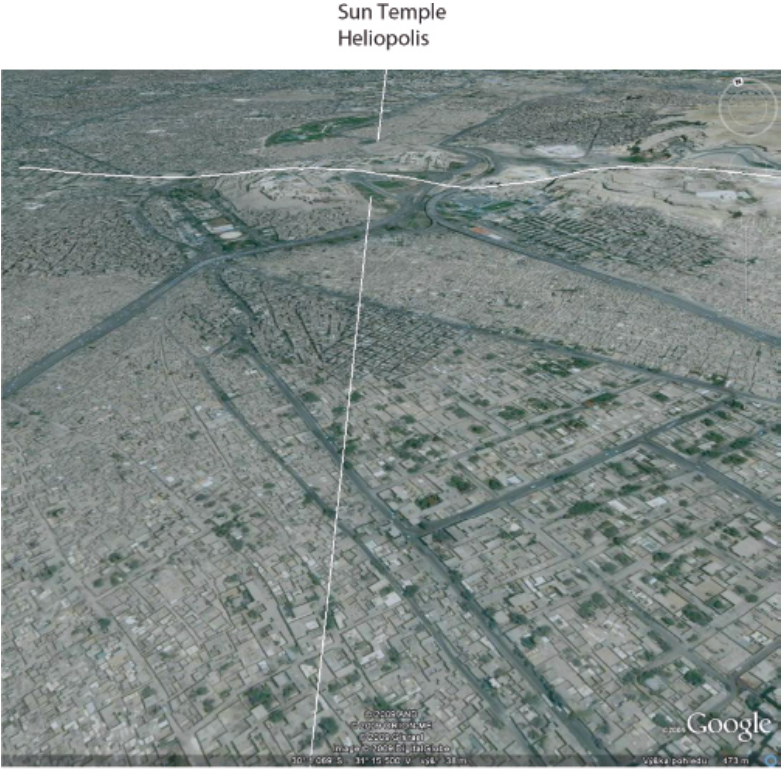


Plate 9: Direct visual connection between the Abusir pyramids and Heliopolis is obscured by the Citadel Hill in Cairo (Verner)

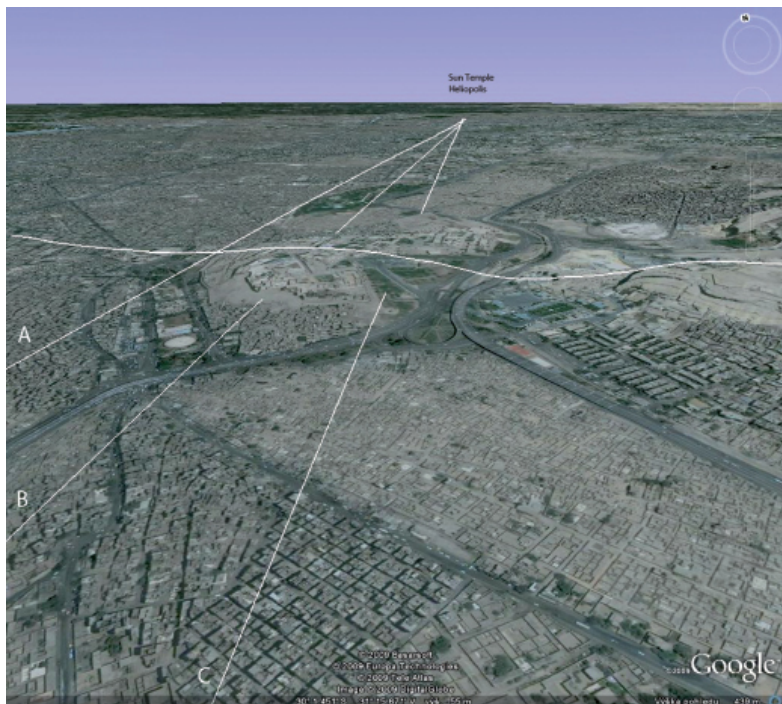


Plate 10: Line (based on Google Earth) linking Heliopolis (obelisk of Senwosret I) with A) the sun temple of Niuserre in Abu Ghurab; B) sun temple of Userkaf in Abusir; C) the north-west corners of the pyramids of Sahure, Neferirkare and Neferefre (Verner)

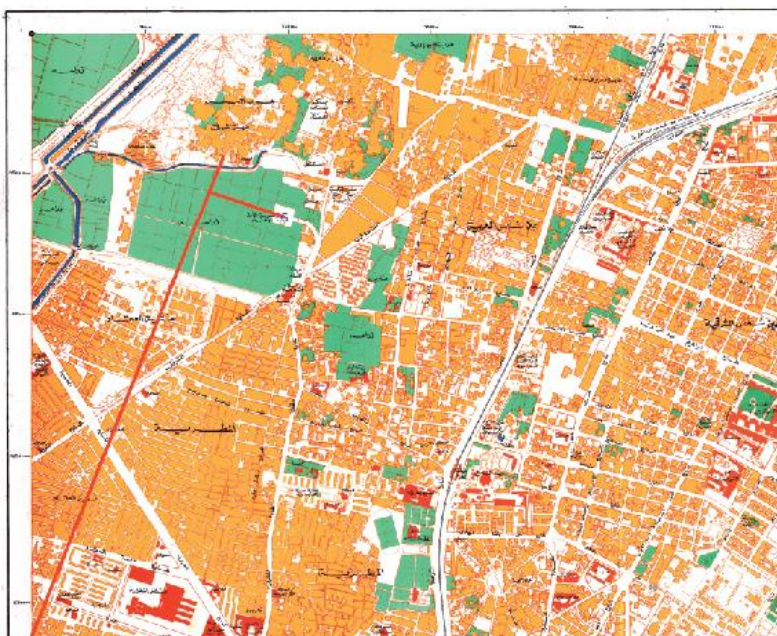


Plate 11: The deviation of the alignment of the north-west corners of the Abusir pyramids from the obelisk of Senwosret I in Heliopolis (Verner)



Plate 12: One of the packages found in a chest in a burial chamber in Corridor 2 in West Saqqara (photo: author). (Rzeuska)



Plate 13: Selected pottery from shaft 34 (Rzeuska)

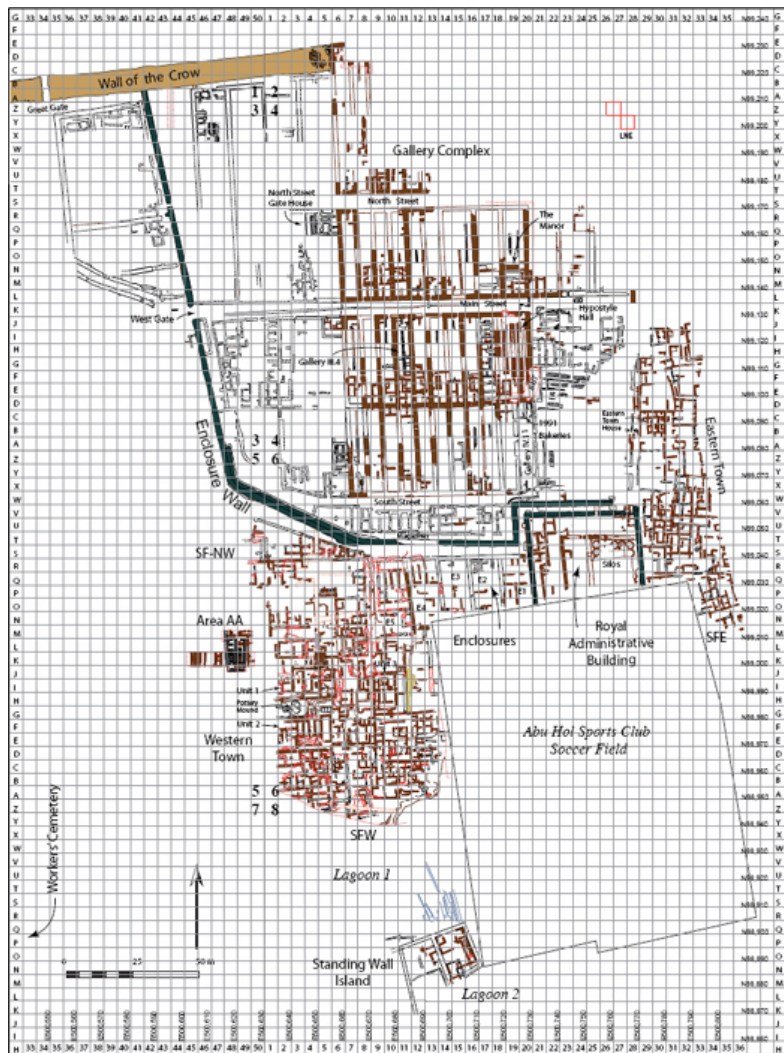


Plate 14: Plan of the Heit el Gurob settlement with areas mentioned in the text (Lehner, "Introduction", 14, Fig. 1.9) (Tavares/Wodińska)